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# INVESTIGATION OF CONCENTRATION OF ECONOMIC POWER

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## TEMPORARY NATIONAL ECONOMIC COMMITTEE

A STUDY MADE FOR THE TEMPORARY NATIONAL  
ECONOMIC COMMITTEE, SEVENTY-SIXTH CONGRESS,  
THIRD SESSION, PURSUANT TO PUBLIC RESOLUTION  
NO. 113 (SEVENTY-FIFTH CONGRESS), AUTHORIZING  
AND DIRECTING A SELECT COMMITTEE TO MAKE A  
FULL AND COMPLETE STUDY AND INVESTIGATION  
WITH RESPECT TO THE CONCENTRATION OF ECONOMIC  
POWER IN, AND FINANCIAL CONTROL OVER,  
PRODUCTION AND DISTRIBUTION  
OF GOODS AND SERVICES

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MONOGRAPH No. 10

## INDUSTRIAL CONCENTRATION AND TARIFFS

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Printed for the use of the  
Temporary National Economic Committee



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UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1941

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## INDUSTRIAL CONCENTRATION AND TARIFFS

CLIFFORD L. JAMES

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(Signed) JOSEPH C. O'MAHONEY,  
*Chairman, Temporary National Economic Committee.*



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## LETTER OF TRANSMITTAL

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HON. JOSEPH C. O'MAHONEY,  
*Chairman, Temporary National Economic Committee,*  
*Washington, D. C.*

MY DEAR SENATOR: I have the honor to transmit herewith a study by Dr. Clifford James on Industrial Concentration and Tariffs. As is well-known, the tariff is a tax—a tax levied against all consumers. A tariff represents Government interference with the normal processes of international trade. A tariff is a burden put upon foreign competitors so that the amount of competition at home may be less. If high enough a tariff protects domestic industry, that is, it eliminates foreign competition. Under those circumstances, “the consumer pays the tax in precisely the same way as if the article continued to be imported—that is in the shape of higher prices, only, there is in this case no revenue to the public treasury. The extra price stands for so much bonus to domestic producers to enable them to maintain themselves in a disadvantageous industry. And it represents so much national loss.”<sup>1</sup>

More than 100 years ago Henry Clay and his followers called the tariff system “the American plan.” That fact is frequently overlooked. Tariffs represent national economic planning at work—planning done in a completely uncoordinated manner so far as the Nation as a whole is concerned, planning carried out by individual industries, each seeking its own self-interest, planning which uses the coercive powers of government to exclude competition. Needless to say, such planning is most efficiently done by completely organized industries. For this reason an eminent American businessman, Mr. Havemeyer of the American Sugar Refining Corporation, once called the tariff the “mother of the trusts.”

But “trusts” are also vigorous proponents of the tariff. Thus in a considerable range of enterprise less than half a dozen companies have grown to such size that they produce two-thirds to three-fourths of total output, yet by forceful intervention of government to the detriment of the great masses of its citizens, they are protected like infants, presumably on the ground that despite their control over the domestic market they are not vigorous enough to hold their own in competition with foreigners. For governments to interfere with the welfare of their citizens in behalf of monopolies seems an anomaly. The study undertaken by Dr. James represents one of the most important fields calling for painstaking research.

The analysis contained in chapter VI on Softwood Lumber and Trade Agreements was made at the verbal request of Senator Holman, which request was granted by the chairman of the Temporary National Economic Committee. It raises a question which obviously goes

<sup>1</sup> F. W. Taussig, *Principles of Economics* (New York: 1939) vol. 1, p. 520.

far beyond the scope of this study, a question well meriting extended treatment of its own. That question is whether the trade-agreements program has incidental usefulness as a device for combating monopolistic or restrictive tendencies at home. The old method of tariff-making constituted a vehicle favorable to the creation and perpetuation of monopolistic tendencies.<sup>2</sup> Since 1932 the imposition of excise taxes in revenue acts (disguised tariffs) has introduced another vehicle operating to the same effect. Where the tariff is the controlling factor, perhaps only through action of the Tariff Commission in administering the so-called flexible provisions, section 336 of the Tariff Act, and through the trade-agreements program can monopolistic tendencies be substantially mitigated, i. e., by adjusting the tariff rates downward wherever they appear to maintain or perpetuate private restrictive influences on output, prices, or market. This chapter at least raises such a question. Only an extended study can answer it.

Chapter VII similarly opens up a question far exceeding the scope of this monograph, a question of the gravest importance well deserving full time and attention by the research staff of the Tariff Commission. It is the problem of assessing in dollars and cents the annual cost to consumers, of tariffs designed to aid special groups of producers. Dr. James has made a study of only two commodities, sugar and rayon, and arrived at estimates well-corroborated by scientific studies independently made that the tariff in these two commodities alone probably costs American consumers more than a quarter billion and possibly as much as a third of a billion dollars a year.

Mr. Gordon Arneson, of the University of Minnesota, and Dr. Edward C. Welsh, of Ohio State University, were of vital assistance in the preparation of this study. In its final stages the manuscript was reviewed in its entirety by Dr. Edward S. Mason, professor of economics, Harvard University. His painstaking care and numerous criticisms and suggestions are hereby gratefully acknowledged.

Respectfully submitted.

THEODORE J. KREPS,  
*Economic Adviser.*

AUGUST 26, 1940.

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<sup>2</sup> See E. E. Schattschneider, *Politics, Pressures, and the Tariff* (New York: 1935), especially pt. II.

## CHAPTER I

### INTRODUCTION AND SUMMARY OF FINDINGS

#### 1. CONCENTRATION OF ECONOMIC POWER

The Temporary National Economic Committee was created by Congress for the purpose of investigating the concentration of economic power and the relation of concentration to employment, production, and consumption. Congress directed the committee to make a full and complete study of the above problem and related matters which were referred to in the President's message of April 29, 1938, and to recommend to Congress legislative changes. Both Congress and the President included "the effect of existing tax, patent, and other Government policies upon competition, price levels, unemployment, profits, and consumption" within the scope of the investigation.

An important governmental policy which affects competition, prices, employment, profits, and consumption is tariff policy. When tariffs effectively exclude foreign sellers from the domestic market, competition may be greatly lessened, and monopolistic practices may be facilitated. Tariffs and other restrictions on imports, as well as special legislation permitting combinations in the export trade, constitute part of the field assigned for investigation. Since tariffs in the history of the United States are the outstanding expression of governmental intervention in markets connected with imports and exports, the following report is confined primarily to a study of industrial concentration and tariffs.

#### 2. INDUSTRIAL CONCENTRATION AND TARIFFS

An outline of the problem will serve to clarify the procedure followed and the general nature of the findings. There are several indicators of monopolistic elements in industry which may be used as the basis for study. One is industrial concentration, that is, the supply of a preponderant share of the output of a given product by a few producers. A few producers, however, may supply nearly all of a given product, but the monopolistic element involved may have little practical significance. The size of plant for efficient operation probably is so large relative to the demand for some products that only a few producers can profitably operate. In some cases side-line production by a few plants may supply adequately a given market. The significance of industrial concentration emerges when combinations, mergers, and affiliations result in multiple ownership or control of plants and fewness of producers rather than fewness of producing units.

Another indicator of monopolistic elements is the frequency and magnitude of price changes for a given product over a period of time as compared with the movement of a group of prices for the same period which are presumably competitive. The comparison usually includes



changes in output. A relatively small variation in price accompanied by a large variation in output is taken as a partial indication of monopolistic elements. In many marketing situations, however, the difference between posted or nominal prices and actual prices including all the variable terms of a transaction is extremely difficult to ascertain. Nominal prices over a given period may show little change, but the terms of sale may change substantially. Factors other than monopolistic elements, moreover, may in some cases account for a small variation in actual prices accompanied by large variation in output. Additional information with regard to the sale of a given product and the industry producing it is usually required in order to add significance to the above test for monopolistic elements.

Certain types of trade practices are usually recognized as indicators of monopolistic elements. These include practices, such as the use of basing points for prices, allocation of markets, dumping, identical bidding, and restricting licenses. These manifestations of monopolistic activity are supplementary data in a study of industrial concentration.

There are several possible relationships between tariffs and monopolistic elements in industry. When tariffs exclude effectively foreign sellers of a given product from the domestic market, monopoly in some cases may be fostered, or at least facilitated. The domestic market for the product may be small relative to the world market. Only a few domestic production units, and these may not all be of the most efficient size, could perhaps operate profitably. On the other hand, without restricting tariffs in various countries specialized producers in different political areas would exchange directly or indirectly their specialties; they would produce for a larger market; and the opportunity for a greater number of production units of the most efficient size for a given product would be improved.

The small number of domestic production units and the difficulty of attaining efficient operating size which may result from tariffs foster monopolistic developments. Because of fewness of production units, lack of efficiency, and a group interest stimulated by a tariff on a given product, combinations, consolidations, and mergers are made easier than they otherwise would be. An additional incentive, moreover, is the possibility that in the case of a prohibitive tariff increased monopolization among domestic producers will permit a more complete use to be made of the tariff with regard to domestic price policy. The growth of an industry, improvements in efficiency, and competitive selling may in some cases render a prohibitive tariff no longer significant because the domestic price is lowered sufficiently over a period of time to make importing unprofitable without the tariff. If monopolization, however, occurs in the industry, the domestic price policy followed may need the support of the tariff.

In the event that the monopolistic industry engages in some exporting, the tariff assurance against imports disturbing the domestic market strengthens its bargaining position with foreign producers in agreements to allocate certain marketing areas. Until recently under these conditions, the possibility existed of selling abroad at prices substantially below domestic prices, transportation costs included, and these dumping prices may have in some cases constituted a potent

trade weapon. Although the Webb-Pomerene Act of 1918 legalized combinations among domestic producers for export purposes, the Customs Administrative Act of 1938 renders ineffective the use of tariffs in order to prevent goods dumped abroad at very low prices from being resold in the domestic market. Prior to this act, American exports of a class dutiable as imports could be returned free of duty only when imported by or for the account of the person who exported them—a provision adopted at the end of the World War to prevent a back-wash of American exports of war and relief materials. Anyone may now import free of duty American products which have been exported and have remained unchanged. A dumping price, therefore, which is lower than the domestic price by more than the cost (including a profit) of returning American exports is no longer feasible.

Although tariffs may foster monopolistic developments, may facilitate monopolistic practices, and monopolistic industries may be more effective in pressing for increases in tariffs, monopolies can and do exist without benefit of tariffs. Cost of transportation enables production units in different areas of the same country to exercise local monopolistic control. The same factor together with sanitary and other administrative restrictions eliminates foreign selling of many types of goods and services in the domestic market, or confines the selling primarily to coastal areas. Sheltered from foreign competition by costs of transportation and other obstacles to the movement of goods, domestic producers may develop monopolistic practices on a national scale.

The products, moreover, of the same general commodity class frequently are different in quality, design, use, etc. Special characteristics of a domestic product may separate it sufficiently from similar goods produced abroad to allow monopolistic elements to develop in the domestic industry. If the industry produces other products which are practically identical with imported goods, it may engage in full-line forcing and thereby exclude most of the imports from the domestic market. Domestic buyers who need the specialty item of the industry may experience difficulty in obtaining it unless they buy the other products of the industry rather than the imported products.

Other factors which in the absence of tariffs may account for monopolistic elements in domestic industries are patents and restrictive licenses for the use of patents; secret processes; ownership of natural resources not available, commercially or otherwise, in other countries; restricting of governmental purchases to domestic products; and a degree of industrial efficiency which makes the domestic industry the predominant supplier of the world market. Only the last two factors require explanation. Federal legislation (1933, 1935, and 1937) provides that within certain discretionary limits purchases for the Federal Government, or purchases under its contracts by others, are limited to domestic products. State legislation of the same type designed primarily to exclude public purchases of the products of other States also excludes imported products. With regard to the factor of industrial efficiency which is sufficient to give a domestic industry a dominant place in the world market for a given product, tariffs are not significant and monopolistic elements may develop on a national scale which affect the price policy of sales both at home and abroad.

## 3. REDUCTION OR REMOVAL OF TARIFFS AND INDUSTRIAL CONCENTRATION

Since 1860, with a few exceptions, the general trend of tariff legislation in the United States has been an upward revision of duties on imports. In 1890 Congress enacted the Sherman antitrust law in order to eliminate monopolistic developments in domestic industries and it also made a general upward revision of tariff rates which placed them above any previous level. No important downward revision was made in the tariff until 1913.

The Tariff Act of 1913 lowered substantially the duties on many products, but foreign selling in the domestic market was soon hindered by the outbreak of the World War. An emergency tariff act in 1921, followed by a general revision of the tariff in 1922, raised many of the duties on imports to a higher level than in previous acts. The act of 1930 was a further general revision upward of duties on imports. Both the acts of 1922 and 1930 contained a provision which authorized the President, after an investigation and recommendation by the Tariff Commission, to raise or lower duties by as much as 50 percent. Changes in rates under this provision during the years 1922 to 1932 were predominantly increases in duties. In the Revenue Act of 1932 a group of commodities which had been mostly free of duty were made subject to an import excise tax.<sup>1</sup> These taxes operate in the same manner as customs duties to restrict imports. Restrictions on imports into the United States probably reached an all-time record in 1932. Because of the foregoing increased restrictions on imports, practically all countries retaliated, many in a discriminatory manner, with tariff increases and other import restrictions which affected adversely the export trade of the United States.

Since 1933 changes in duties and taxes on imports have been predominantly downward. Some reductions have been made under the flexible provision (sec. 336) of the Tariff Act of 1930, but the most important changes have been made in reciprocal trade agreements with foreign countries. In 1934 an amendment to the Tariff Act of 1930 authorized the President to negotiate trade agreements with foreign countries in which reductions of duties, not exceeding 50 percent, could be made in return for similar concessions on American exports.

Agreements with 19 countries are now in effect which have reduced duties and taxes on a wide range of imports. The reductions apply to imports from countries which do not discriminate against American exports. In addition to this safeguard of fair and equal treatment in foreign markets, domestic producers are also given assurances by other provisions of the Tariff Act of 1930 against unfair foreign selling in the domestic market, such as monopolistic dumping, importing of bounty-fed products, and infringement of American patents. Dutiable imports from Germany, for example, have not been granted trade agreement rates since October 14, 1935, because of discriminatory treatment of American exports, and in addition to the duties of the act of 1930, dutiable imports from Germany since March 18, 1939, have been subject to countervailing duties equal to the amount of the export subsidy which they apparently received.

<sup>1</sup> An example of the imposition of import excise taxes, of the retaliation which followed, and of the attempts in trade agreements to improve the situation is given in ch. VI, Softwood Lumber and the Trade Agreements.



From the foregoing brief tariff history reduction and removal of tariff duties appear as a possible aid in the restraint of monopolistic elements in domestic industries. When these elements and tariffs co-exist with regard to the domestic production of a given commodity, the effects of a reduction or removal of the duty can be only roughly estimated. In some cases, as indicated previously, the change would not increase imports and hence would have no effect on the organization of the domestic industry or its price policy. In other cases reduction or removal of tariffs which permitted a substantial increase in imports would have only a partial effect; that is, the increase in imports might be confined because of transport costs largely to coastal areas and would lower prices there without affecting them appreciably in inland areas; or the increase in imports might lower the prices of certain grades of the product without affecting appreciably the commodity class as a whole. Although this partial price-lowering effect would be of some benefit to consumers, the monopolistic elements of the domestic industry would probably continue. In those cases, however, in which tariffs were the main factor responsible for the exclusion of imports, their reduction or removal would not only lower domestic prices substantially but also would eliminate monopolistic elements in domestic industries. Without tariff aid and in the absence of other special factors favorable for monopolistic practices, the only possible monopolistic device would be some form of international agreement among producers which under the circumstances indicated would be very difficult to maintain.

In the last group of cases reduction or removal of tariffs would be definitely advantageous for employment and consumption. Lower prices would increase consumption. The end of monopolistic restrictions on supply in domestic industries would permit either fuller employment in those industries, or in the expanding export industries. Exporting and importing are interdependent and over a period of years change in the same direction. A more liberal tariff treatment of imports, particularly in the form of reciprocal trade agreements, affords an opportunity to expand international trade, to obtain the benefits of specialized production and exchange, and to free, at least in part, domestic industries of monopolistic restrictions.

#### 4. PLAN OF INVESTIGATION

Two methods were followed in the investigation. First, to obtain a statistical analysis of the existing relationship between tariffs and monopolistic elements in domestic industries, a representative sample taken from the Census of Manufactures, 1937, was examined. The sample included 1,807 of the products reported in the census and covered 14 of the 16 industrial classifications of the census.<sup>2</sup> Approximately 100 of the 350 industries in these classes were represented. The total value of the products included in the sample amounted to slightly more than one-half of the total value of all products in the 14 census classifications.

For each product, as defined by the census, the percentage on a value basis supplied by the four largest companies was calculated for the 1,807 products of the sample. The percentages served as indexes

<sup>2</sup> Classes V and XV were omitted, i. e., printing, publishing, and allied industries; and railroad workshops.

of industrial concentration.<sup>3</sup> On the basis of these indexes the products were divided into three groups; that is, the first one included products for which four companies or less supplied 75 percent or more of the total output (value), etc. The groups are indicated in table 1.<sup>4</sup> Because of incomplete data, a few items were placed in an unclassified group.

TABLE 1.—*Sample of industrial concentration, 1,807 products of the census of 1937*

Index of concentration	Census products		
	Number	Value	Percent
75 or more <sup>1</sup> .....	840	\$10, 156, 158, 739	34. 4
50 to 74 <sup>2</sup> .....	526	6, 803, 851, 662	23. 1
49 or less <sup>3</sup> .....	402	12, 298, 424, 226	41. 7
Data incomplete.....	39	247,258, 516	. 8
Total.....	1, 807	29, 595, 693. 143	100. 0

<sup>1</sup> Four companies or less supplied 75 percent or more of the total value of each product.

<sup>2</sup> Four companies supplied from 50 to 74 percent of the total value of each product.

<sup>3</sup> Four companies supplied 49 percent or less of the total value of each product.

Source: Census of Manufactures, 1937. T. N. E. C. Industrial Concentration Study.

All products of the sample were examined with regard to their tariff status in 1937. In addition, a more detailed study of the first group, namely the one with a concentration index of 75 or more was made. The special study includes 317 products and groups of products with a total value of \$9,880,797,078 in 1937 which contains about 90 percent, on a value basis, of the products in the concentration class with an index of 75 or more.<sup>5</sup>

For each product, or closely related products,<sup>6</sup> of the special study a brief schedule of essential information was prepared. First, it con-

<sup>4</sup> As repeatedly pointed out by the Department of Commerce, these percentages of concentration have certain obvious imperfections as indexes of concentration. Experience has proved that in some industries census coverage of companies is not complete. In most instances this is probably not serious, but in a few cases it may yield an index of apparent concentration greater than actual. In numerous cases the census classification is too narrow to provide significant figures on industrial concentration since the product classified separately may actually compete with a number of products in other classifications. It also fails to give an adequate picture of the competition that may exist in industries like the rubber tire industry where despite concentration of production competition at times has been intense. Studies of an industry in its entirety such as those given in subsequent chapters are needed in order to supplement the comparison by products. Obviously in group figures on concentration such as those given in chapters I and II and appendix I below the percentages of concentration given may tend to be too high. On the other hand, the measure is by companies and hence fails to show concentration of control by trade associations, interlocking management or "gentlemen's agreements." The measure like the underlying statistics is national. Yet for quite a large number of products the competitive market area is much smaller. Here the significant point would be the concentration in each area. The measure applied throws the product into one of three groups according to whether the percentage of production by value of the four largest companies amounted to 75+; 50 to 74; or 49 or less. Obviously this classification is arbitrary. The choice of different figures might have produced a different picture, at least in its details, though preliminary tests indicate that the major results are identical with those found in this study.

<sup>5</sup> A break-down of table 1 by census groups is given in appendix I, table 1.

<sup>6</sup> The exact duplication of products in the two groups had a total value of \$9,066,605,134. Many small items, valued at less than \$500,000, were not included in the special study unless they could be conveniently grouped for the detailed tariff analysis. Some larger items of the 75-concentration class were not included in the special study because classification of products in the census frequently is different from the classification for duties, imports, and exports. In the investigation, however, of tariff status 32 products, valued at \$814,191,944 in 1937 (8.2 percent of the special study group) which were not included in the sample of 1,807 products, were added to the special study; the total of which (\$9,880,797,078) is 97.3 percent as large as the value of the 75-concentration group. They were added because tariff information was available and because they met the requirements of the special study with regard to value (\$500,000 or more) and industrial concentration (75 or more). The 32 products are jute yarn; bagging for baling cotton; vegetable parchment; dissolving pulps; cigarette paper; phosphoric acid; crude sulfur; soaps; technical glassware; spectacle glass; blister and refined copper; aluminum ingots (copper and aluminum ingots partly in group of 1807); carbon and graphite electrodes, and lighting carbons; sewing machines; glues, 4 kinds; briar pipes; chewing gum; binder twine; press cloth; wax crayons; toothbrushes; slide fasteners; buttons, 3 kinds; phonograph needles, record blanks, and disk records. See appendix II for a detailed schedule of each of these products.

<sup>6</sup> Since many industries and companies produce a great variety of products and since the census data are for individual products, the study was confined largely to a product basis. Some items were grouped which explains in part the wide difference between the number of products in the 75-concentration group (840) and the number in the special study (317) and the smaller difference between the values of the two groups.

tained a short statement with regard to the description and use of the product. Second, in a tabular form the status of the industry in 1937 was presented, namely, the total number of companies and plants, the total value of domestic production and the percent supplied by the four largest companies, and the tariff status of the product (free, ad valorem rate, or equivalent ad valorem rate). Third, the recent tariff treatment of the product beginning with the act of 1913 was indicated. Fourth, if the duties were specific or partly so, an average ad valorem equivalent was calculated whenever possible for the years 1934-38, inclusive. Fifth, domestic production, imports, and exports on a value basis for the years 1935 and 1937 were indicated. Sixth, a brief statement was included of the factors which probably accounted for the industrial concentration and of the probable changes in imports and domestic prices which would follow a substantial reduction or removal of duties.

On the basis of the information contained in the schedules a statistical analysis was made of the existing relationship between tariffs and monopolistic elements in domestic industries. Using the total value of domestic production in 1937 of all products in the special study as a basic quantity, percentages were calculated for several classifications, such as the percent of the total which was not directly affected by tariff legislation because imports were free of duty; the percent apparently affected by low, intermediate, and high duties on imports; and the percent affected by duties which probably effectively restricted imports. The last classification indicates the coexistence of a high degree of industrial concentration as described above, and effective tariff restriction of imports.

The second method of investigation consisted of a historical survey of a few industries which showed a high degree of industrial concentration. Since the products of a given industry are frequently quite diverse with regard to use and conditions of sale, their relationship within an industry is important. In many instances the significance of industrial concentration and tariff treatment is changed materially when the examination is shifted from a product to an industry basis. The investigation in each case usually covered the period since 1900 and included an examination of factors, such as changes in tariffs; changes in domestic production, imports, and exports; and trends in concentration. Although causal relationships are difficult to establish with regard to the above factors, this method permitted an exploration of the conditions, policies, and practices which accompanied the development of industrial concentration in a given industry and provided a more adequate basis for estimating the probable effects of present tariff changes. These few cases supplement the analysis of the first method and indicate the possibilities of additional investigation with regard to the products included in the statistical sample of industrial concentration.

## 5. SUMMARY OF FINDINGS

The analysis of the sample of 1,807 products (table 2) indicated that many duties on imports were not highly restrictive.<sup>7</sup> Only a few products, however, in the sample were free of duty, namely, 2.5 percent. Of the remainder, 12.2 percent were subject to duties of

<sup>7</sup> A break-down of table 2 by census groups is given in appendix I, table 2.

60 percent or more (ad valorem or equivalent);<sup>8</sup> 36.5 percent were subject to duties of 30 to 59 percent; and 47.6 percent to duties of 29 percent or less. In these three dutiable groups, duties probably had little or no effect on imports for approximately half of the total value of each group in 1937. Duties seemed to be highly restrictive on imports for 50 percent of the high-duty group; for 7.5 percent of the intermediate duty group; and for 12.7 percent of the low-duty group. For the remainder of each group the duties were probably moderately restrictive.

TABLE 2.—*Sample of industrial concentration, 1,807 products of the census of 1937, according to duty status and tariff effects in 1937*

Duty status	Census products		Restrictive <sup>1</sup> effects of tariffs					
			Insignificant		Moderate		Substantial	
	Value	Per-cent	Value	Per-cent	Value	Per-cent	Value	Per-cent
60 or more <sup>2</sup> .....	\$3, 603, 689, 355	12. 21	\$1, 482, 126, 495	41. 13	\$311, 714, 614	8. 65	\$1, 809, 848, 246	50. 22
30 to 59 <sup>2</sup> .....	10, 769, 586, 884	36. 50	6, 167, 097, 007	57. 27	3, 797, 845, 372	35. 26	804, 644, 505	7. 47
29 or less <sup>2</sup> .....	14, 055, 243, 042	47. 64	6, 899, 483, 113	49. 09	5, 370, 311, 748	38. 21	1, 785, 448, 181	12. 70
Free.....	753, 226, 863	2. 55	-----	-----	-----	-----	-----	-----
Data incomplete..	323, 946, 999	1. 10	-----	-----	-----	-----	-----	-----
Total.....	29, 505, 693, 143	100. 00	14, 548, 706, 615	49. 31	9, 479, 871, 734	32. 13	4, 399, 940, 932	14. 91

<sup>1</sup> Based on information recorded on schedules of each product and reproduced in Appendix II for the high concentration group.

<sup>2</sup> Ad valorem rates of duty or equivalent ad valorem rates, 1937.

Source: Census of Manufactures, 1937. Forthcoming Study on Concentration of Production made for the Temporary National Economic Committee by the Department of Commerce, Foreign Commerce and Navigation of the United States.

A classification of the sample according to the three industrial concentration groups and the restrictive effects of duties (table 3) showed that there was no close connection between high-concentration and restrictive tariffs.<sup>9</sup> In the high-concentration group (75 or more) duties probably had little or no effect on imports for 69 percent of the group. On the other hand, in the low-concentration group (49 or less) duties probably were not restrictive on imports for 40 percent of the group. Stated differently, duties were restrictive for only 31 percent of the high-concentration group but were restrictive for 60 percent of the low-concentration group.

<sup>8</sup> Since values in import statistics are in all but a few cases values f. o. b. the foreign port, these percentages are somewhat higher than if calculated on the duty-paid wholesale value laid down in the United States. On the other hand, imports are frequently of a special grade so that the ad valorem equivalent is quite different (usually lower) from what it would be if all grades entered. In extreme cases where imports are small and sporadic the ad valorem equivalent may have no significance whatever. The general lack of dependability of ad valorem equivalents alone as a measure of tariff protection is evidenced by numerous cases where we are on an export basis for a product (export more than we import) and others where the ad valorem equivalent varies greatly from year to year (without change in the duty) or from country to country.

<sup>9</sup> A break-down of table 3, by census groups, is given in appendix I, table 3.



TABLE 3.—*Sample of industrial concentration, 1,807 products of the census of 1937, according to tariff effects in 1937*

Index of concentration	Census products		Restrictive effect of tariffs						Free, value
			Insignificant		Moderate		Substantial		
	Value	Per-cent	Value	Per-cent	Value	Per-cent	Value	Per-cent	
75 or more <sup>1</sup>	\$9, 739, 241, 930	34. 27	\$6, 733, 680, 639	69. 14	\$2, 500, 279, 229	25. 67	\$505, 282, 062	5. 19	\$359, 740, 411
50 to 74 <sup>2</sup>	6, 583, 523, 679	23. 17	3, 011, 513, 414	45. 74	2, 740, 257, 801	41. 62	831, 752, 464	12. 64	218, 985, 927
49 or less <sup>3</sup>	12, 096, 062, 619	42. 56	4, 793, 821, 509	39. 63	4, 239, 334, 704	35. 05	3, 062, 906, 406	25. 32	174, 500, 525
Total.....	28, 418, 828, 228	100. 00	14, 539, 015, 652	-----	9, 479, 871, 734	-----	4, 399, 940, 932	-----	753, 226, 863
Data in-complete.....	333, 638, 052	-----	-----	-----	-----	-----	-----	-----	-----
Grand total <sup>4</sup>	29, 505, 693, 143	-----	-----	-----	-----	-----	-----	-----	-----

<sup>1</sup> 4 companies or less supplied 75 percent or more of the total value of each product.

<sup>2</sup> 4 companies supplied from 50 to 74 percent of the total value of each product.

<sup>3</sup> 4 companies supplied 49 percent or less of the total value of each product.

<sup>4</sup> Includes the value of products free of duty.

Source: Census of Manufactures, 1937; Temporary National Economic Committee, Industrial Concentration Study.

The special study of the group of 317 products, which contains about 90 percent of the products in the high-concentration class of the sample of 1,807 products, examined in more detail the relationship between high industrial concentration and tariff restriction. It also extended the analysis in order to determine not only the coexistence of high concentration and restrictive tariffs but also the coexistence of monopolistic elements and restrictive tariffs, the reduction or removal of which would offset the monopolistic elements in domestic industries.

The results of the special study conform in part with those of the large sample (table 4). A slightly larger percent, namely, 3.9 as compared with 2.5, were free of duty. Since all of the 317 products have a concentration index of 75 or more, factors other than the tariff which were referred to previously account for the high concentration of the 3.9 percent. Of the remainder, 14.7 percent were subject to duties of 60 percent or more (ad valorem or equivalent); 27.5 percent were subject to duties of 30 to 59 percent; and 53.9 percent, to duties of 29 percent or less.<sup>10</sup> Of these dutiable groups, however, duties probably had little or no effect on imports for 65 percent of the total value (table 5).<sup>11</sup> In a few cases the duties were ineffective because of the international monopolistic character of the industry. Removal or substantial reduction of duties for 35 percent of the dutiable products on a value basis would probably increase imports sufficiently to have at least a partial effect on domestic prices.

<sup>10</sup> For duty status analysis, by groups, see ch. II.

<sup>11</sup> For tariff effectiveness, by groups, see ch. II.

TABLE 4.—*Sample of high industrial concentration, 317 products mainly of the census of 1937, according to duty status in 1937*<sup>1</sup>

Duty status	Products	
	Value	Percent
60 or more <sup>2</sup> .....	\$1, 447, 192, 185	14. 7
30 to 59 <sup>2</sup> .....	2, 724, 820, 707	27. 5
29 or less <sup>2</sup> .....	5, 322, 254, 820	53. 9
Free.....	386, 529, 366	3. 9
Total.....	9, 880, 797, 078	100. 0

<sup>1</sup> 4 companies or less supplied 75 percent or more of each product on a value basis.<sup>2</sup> Ad valorem rate or equivalent in 1937.

Source: Census of Manufactures, 1937; Foreign Commerce and Navigation of the United States; Temporary National Economic Committee Industrial Concentration Study.

TABLE 5.—*Sample of high industrial concentration, 317 products mainly of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Domestic production value in 1937	Percent
Monopolistic elements in domestic industries partially offset.....	117	\$2, 635, 190, 632	27. 7
Duties restrictive but monopolistic elements not significant.....	74	660, 572, 835	7. 0
Duties not restrictive.....	114	6, 198, 504, 215	65. 3
Free of duty.....	12	386, 529, 366	3. 9
Total.....	317	9, 880, 797, 078	(1)

<sup>1</sup> The first 3 percentages are based on the total of dutiable products, namely, \$9,494,267,712. The percent free of duty is based on the total value for all 317 products.

Source: Census of Manufactures, 1937; Foreign Commerce and Navigation of the United States; Temporary National Economic Committee Industrial Concentration Study.

A high degree of industrial concentration, however, especially on a product basis, is not always of great practical significance. Some products may be minor items for an industry and may be produced by only a few companies, with little indication of monopolistic restriction. Although removal or reduction of duties in such cases may be desirable and effective with regard to domestic prices, they cannot be expected to aid materially in offsetting domestic monopolistic practices. When products which seemed to belong to this group are eliminated from the total which was probably significantly affected by duties, the above estimate of 35 percent was reduced to approximately 28 percent. In other words, for 28 percent of the products apparently affected by duties on imports, removal or substantial reduction of duties could be reasonably expected to aid materially in the restoration of competition in the domestic market.

The above estimates are, of course, subject to error for specific products, but the errors may easily be offsetting. In calculating the 28 percent, for example, some products may have been included which subsequent experience would indicate should have been excluded and vice versa. The estimates, moreover, are based largely on the year 1937 and do not include allowances for special conditions, such as countervailing duties on imports from Germany, informal quotas on imports from Japan, and war conditions which are likely to curtail imports from several large exporting countries.

The above 28 percent cannot be interpreted to mean that in those cases tariffs were the cause of the development of monopolistic elements in domestic industries. The statistical analysis of industrial concentration and tariffs, as well as the supplementary case studies of industries, indicate that tariffs may foster and facilitate monopolistic practices, but these practices may develop without benefit of tariff. On the other hand, the analysis does suggest that a significant number of products not included in the special study for which the index of industrial concentration is as low as 50 percent is probably affected by monopolistic elements which could be partially offset by appropriate changes in duties on imports. Four of the largest companies, for example, may supply only 50 percent of the output of a given product, but the largest may supply 30 percent. Monopolistic possibilities and practices are not necessarily confined to industries which exhibit a high degree of industrial concentration.

When restrictive tariffs are reduced or eliminated, consumers receive some benefit regardless of the degree of competition in the domestic industry. The benefit to be derived is probably substantial in many cases. Two products, sugar and rayon yarn, were analyzed from the point of view of consumers' cost.<sup>12</sup> In 8 recent years the domestic consumers have paid on the average each year about \$273,633,000 more for sugar because of import restrictions. Tariff protection of rayon yarn (principal weights only) imposed in 1937 and 1938 an additional cost on the consumers of \$139,171,000. Some progress toward lower duties was made in recent years under the reciprocal-trade-agreements program. Approximately 39 percent of the products on a value basis included in the special study is affected by duty reductions and bindings in the various trade agreements. Regardless of the method used, a coordinated policy in the use of tariffs and in the preservation of competition or regulation of monopoly is needed in order to promote efficient production and to assure that a liberal portion of the fruits of efficiency will reach the mass of consumers.

<sup>12</sup> See ch. VII. Consumers' cost from import restrictions: Sugar and rayon yarn.





## CHAPTER II

# SAMPLE STUDY OF INDUSTRIAL CONCENTRATION AND TARIFFS

### 1. INTRODUCTION

The study, as already indicated, is based primarily on the Census of Manufactures for the year 1937. A few comments with regard to the census will serve as an introduction to a brief discussion of the various groups included in the sample of 317 products. First of all the census does not include establishments or plants which were idle throughout the year or which reported products valued at less than \$5,000. For a small number of products covered by the sample the degree of industrial concentration will be increased because of the omission. Industrial concentration, however, which is calculated on a product-basis understates in many important cases the degree of concentration for an industry or for a group of industries. Four leading companies, for example, may supply 75 percent or more of the output of 10 products and the analysis of each may not seem of great importance. But 5 of the products may constitute an important industry, the other 5 may be the main products of 5 separate industries, and 1 company may be the principal producer in all cases.

The value of products in the census are reported values at the plant for commodities produced during the year which may or may not be sold. These values reflect only roughly the relative importance of products and industries because they include the value of materials used. Since they are not values added by manufacture at each stage of production, duplication is involved which is not uniform for various products. Some of the products included in the sample represent different stages in the same general industry which overstates their relative importance. From the point of view of industrial concentration and tariffs, however, an analysis of products at different stages of production is essential.

The data for value of domestic production, as well as number of companies, plants, and concentration, in some instances are estimates. The Bureau of the Census is prohibited by law from releasing any statistics that might disclose data reported by individual companies or establishments. These estimates are subject to error, but are used only when an investigation of available information seemed to assure a reasonable degree of accuracy.

The sample of 317 products, each with a concentration index of 75 or more, was examined in detail in order to determine as accurately as possible the relationship between high concentration and duties on imports. On the basis of value, as stated in chapter I, the special study of 317 products contains about 90 percent of the products in the high concentration group of the large sample of 1,807 products. Since 32 products, however, were added to the special study which

are not included in the large sample, the total value of the 317 products represents 97.3 percent of the value of the high concentration group of the large sample. In the analysis which follows, the products added will be indicated. In order to facilitate the analysis, the grouping of the 317 products does not conform exactly to census classifications. The differences will be explained.

## 2. FOODS AND RELATED PRODUCTS

The first group consists of 18 products in the food industries which have a total value of \$431,207,671.<sup>1</sup> In all cases imports are subject to duties. About 23 percent on a value basis was subject to duties of 60 percent or more; 67 percent to duties of 30 to 59 percent; and 10 percent to duties of 29 percent or less. The duties probably restrict appreciably imports of the following products (65.3 percent of the total): Soft or brown sugar, granulated sugar, grape juice, fresh mutton and lamb, canned dog and cat food, corn oil, dextrine, buckwheat flour, and canned plums. For these products, except the last two (64.9 percent of the total), removal or substantial reduction of duties would assist in offsetting monopolistic elements in the domestic industries (table 6).

TABLE 6.—*Sample of high industrial concentration, 18 food products of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	7	516	691	\$279, 752, 328	64. 9
Duties restrictive, but monopolistic elements not significant.....	2	218	223	1, 556, 989	. 4
Duties not restrictive, no effect on monopoly.....	9	175	210	149, 898, 354	34. 7
Free of duty.....	None				
Total .....	18	909	1, 124	431, 207, 671	

One of the important products included in this group is sugar. Because of restrictions on imports, consumers each year pay a substantial additional amount for sugar. An analysis of consumers' costs for the protection of domestic-sugar production is presented in chapter VII.

Cornstarch, which is not mentioned in the above list, is included in the group of 18 products. Since several corn products are also included, of which two, corn oil and dextrine, are listed above, a brief survey of the industry will clarify the analysis.<sup>2</sup> Cornstarch is an intermediate product in the corn wet-milling industry. Approximately two-thirds of the domestic production is converted by the same companies into corn sirup and corn sugar; a minor portion into dextrine. Byproducts are corn oil, corn cake, and meal. About 95 percent of all starch produced domestically is made from corn; the remainder from potatoes, wheat, and rice. Imported starches consist mainly of tropical starches, principally tapioca, and sago, which are free of duty, and potato starch. Approximately one-third of the

<sup>1</sup> See Appendix II, group A, for a schedule of information for each product.

<sup>2</sup> See United States Tariff Commission Survey, "Starches and Dextrines," for a complete analysis.

starches sold in the United States is supplied by imports. The imported starches are used in the manufacture of textiles, paper, adhesives, and explosives; a minor use is as a food product. Cornstarch is also used for the same purposes and in addition it is used in laundry work and in the manufacture of corn sirup and sugar. A substantial quantity of cornstarch is exported.

As stated above, tropical starches are free of duty. They were bound on the free list in the trade agreement with the Netherlands, effective February 1, 1936. In the same agreement moderate reductions were made in the duties on potato starch and potato dextrine. Because of an increase in corn prices in 1937 and a greater differential than usual between the price of cornstarch and the price of tapioca, imports of the latter increased substantially. The domestic industry in 1938 requested formally that the agreement with the Netherlands be revised in order to eliminate the binding of tapioca and sago on the free list. This action, obviously, was intended to clear the way for imposition of an import excise tax or an import quota. Up to the present the request has not been granted.

The degree of industrial concentration is one of several factors which makes appropriate the removal or substantial reduction of tariffs for the industry. Since 1890 the development of the wet-milling industry has been accompanied by frequent attempts to obtain complete monopolistic control.<sup>3</sup> Although the Corn Products Refining Co. was adjudged guilty in 1916 of violating the Antitrust Act, subsequent legal action in the form of a consent decree in 1919 allowed the situation to remain practically unchanged.

The industry in 1937 consisted of 11 companies and 14 plants. Except for 1 plant of the largest company at Edgewater, N. J., the plants were located in the Middle West. The 4 largest companies probably produced more than 85 percent of the industry's products; the largest company, probably more than 50 percent.<sup>4</sup> These 4 companies produce a full line of products; the 7 other companies confine their production mostly to a few products. Several of the larger companies engage in other business activities. The largest company, for example, is financially interested in a paper-box manufacturing company and in a company which owns about half of the potato-starch factories.<sup>5</sup> It also has a financial interest in 13 starch factories located in foreign countries.

Removal or substantial reduction of duties on imports which are related to the industry's products would allow foreign selling to become a partial regulator of domestic prices. Since cornstarch is exported and since imports of tropical starches are free of duty, the price of cornstarch would probably be only slightly affected in eastern coastal areas. The price of corn sirup and corn sugar would not be appreciably affected. Imports of dextrine and corn oil, however, would probably increase and would lower prices moderately. Although a downward revision of duties would have only this partial

<sup>3</sup> The early history of these attempts is given by Myron W. Watkins, "Industrial Combination and Public Policy," 1927, p. 210.

<sup>4</sup> The companies are the Corn Products Refining Co., A. E. Staley Manufacturing Co., Penick & Ford, and the American Maize-Products Co.

<sup>5</sup> Potato starch is not included in the sample because domestic production in 1937 amounted to less than \$500,000, namely, \$287,927. In 1935 domestic production was valued at \$883,315. In 1937 the industry comprised 8 companies and 9 plants. The 4 largest companies accounted for 86 percent of the total output. Although the duty on potato starch was reduced from 2½ to 1¾ cents per pound in the Netherlands Trade Agreement, the equivalent ad valorem rate was 88 percent in 1937 on imports valued at \$208,760.

effect, it removes any potential effectiveness which some of the duties may have and makes less likely the imposition of restrictions on the importation of tropical starches.

### 3. TEXTILES AND ALLIED PRODUCTS

The second group consists of 38 products in the textile industries which have a total value of \$496,509,521.<sup>6</sup> In all cases imports are subject to duties. About 60 percent on a value basis was subject to duties of 60 percent or more; 33 percent, to duties of 30 to 59 percent; and 7 percent, to duties of 29 percent or less. With the exception of two items, cotton duck fabrics and cotton tire fabrics, the duties probably restrict appreciably imports (97.4 percent of the total). Since many of the products represent only very minor parts of the textile industries and consist frequently of side-line products, the high degree of industrial concentration is probably not associated with significant monopolistic elements. Removal or substantial reduction of duties would probably assist in offsetting monopolistic elements in domestic industries producing the following 11 items (71.9 percent of the total): Rayon yarn; rayon staple fiber; infants' anklets and slack socks; turkish and terry woven towels and toweling; cotton gauze, tobacco, and cheese cloth; auto cloths (with pile); jute yarns; bagging for baling cotton; linoleum and cork carpet; inlaid linoleum; and asphalted felt-base rugs (table 7). Two products, jute yarns and bagging for baling cotton, are part of the 32 products not included in the large sample.

TABLE 7.—*Sample of high industrial concentration, 38 textile products mainly of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production value, 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	11	129	162	\$356, 931, 936	71.9
Duties restrictive, but monopolistic elements not significant.....	25	278	301	126, 428, 538	25.5
Duties not restrictive, no effect on monopoly.....	2	17	21	13, 149, 047	2.6
Free of duty.....	None				
Total.....	38	424	484	496, 509, 521	

Of the 11 products listed above rayon yarn is the most important. Its production was developed in the United States during the period 1910-20 by the American Viscose Corporation a subsidiary of the British Courtlands Co. The duty on imports was increased in the tariff acts of 1922 and 1930. In 1937 the equivalent ad valorem was 120 percent. During this period new companies entered the field, some of which were assisted by Dutch and German companies. Nearly all important European producers, including the parent companies of certain American firms, are closely related by financial ties and by agreements. The information available is not sufficient to determine with reasonable accuracy the relationship of the American industry to the international organization of the rayon industry.

Trade practices of the domestic industry during the period October 1931 to June 1932 which seemed to lessen price-competition were the

<sup>6</sup> A schedule of information for each product is given in Appendix II, group B. Rayon yarn and rayon staple fiber are classified by the census in chemicals.



basis of a cease and desist order by the Federal Trade Commission. In 1937 the industry consisted of 17 companies and 26 plants. Of these companies 3 are large, 6 are of medium size and 8 are small. The two largest companies, the American Viscose Corporation and the E. I. duPont deNemours & Co., owned 10 of the plants and probably supplied more than 50 percent of the rayon yarn in 1937. These two companies also supplied about 85 percent of the domestic production of transparent cellulose wrapping material which was valued at \$41,000,000 in 1937. Because of incomplete data this item is not included in the sample.

A substantial reduction of the duty on rayon yarn would probably allow imports to serve as a partial regulator of domestic prices. Although the international organization of the industry, including the possible participation of a significant portion of the domestic industry, might offset materially the effect of a duty reduction, the opportunity for independent sellers would be improved. In any event, a reduction of the duty which made imports possible would eliminate the tariff as a bargaining factor in the international allocation of markets. The possible benefits to consumers from such a reduction are discussed in chapter VII.

#### 4. WOOD AND PAPER PRODUCTS

The third group consists of 16 products in the wood and paper industries which have a total value of \$112,741,142.<sup>7</sup> The largest item, dissolving pulps, is free of duty (21 percent of the total). It was bound on the free list in the second Canadian agreement, effective January 1, 1939. About 10 percent of the total products on a value basis was subject to duties of 60 percent or more; 37 percent, to duties of 30 to 59 percent; and 32 percent, to duties of 29 percent or less. Duties probably restrict imports of the following products (61.1 percent of dutiable products): cork insulation, stoppers, gaskets, etc.; matches (strike-on-box); cigarette paper; vegetable parchment; wrapping paper; kraft wrapping paper; book paper (containing ground wood); and leather board. Removal or substantial reduction of duties would probably assist in offsetting minor monopolistic elements in domestic industries producing these items with the exception of the last four (30.6 percent of the dutiable products, table 8). Three products; vegetable parchment, dissolving pulps, and cigarette paper, are part of the 32 products not included in the large sample.

TABLE 8.—*Sample of high industrial concentration, 16 wood and paper products mainly of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	7	65	73	\$27, 176, 616	30.6
Duties restrictive, but monopolistic elements not significant.....	4	41	48	27, 134, 463	30.5
Duties not restrictive, no effect on monopoly.....	4	42	55	34, 559, 024	38.9
Free of duty.....	1	3	6	23, 871, 039	1 21.1
Total.....	16	151	182	112, 741, 142	-----

<sup>1</sup> Percent free of duty is based on total for the group; percentages for the remainder of the group are based on the total of dutiable products in the group.

<sup>7</sup> A schedule of information for each product is given in appendix II, group C. Forest products and paper are grouped separately by the census.

## 5. CHEMICALS AND ALLIED PRODUCTS

The fourth group consists of 49 products in the chemical industry and related industries which have a total value of \$606,997,498.<sup>8</sup> Imports of 6 of these products are free of duty (9.6 percent of the total). About 2 percent on a value basis was subject to duties of 60 percent or more; 18 percent, to duties of 30 to 59 percent; and 70 percent, to duties of 29 percent or less. Of the dutiable products, duties do not seem to restrict significantly imports of 11 products (11 percent of the total); namely, acetone, refined borax, boric acid, phosphoric acid, butyl alcohol, synthetic methyl alcohol, carbon bisulfide, silver nitrate, anhydrous ammonia, methyl chloride, and acetylene. Duties probably restrict imports of 4 other products, but their removal or reduction would not offset important monopolistic elements in the domestic industries (50.8 percent of the total). These products include soap, trisodium phosphate, zinc sulfate, and sodium sulfide. Removal or substantial reduction of duties affecting the remaining 28 products would assist in offsetting monopolistic elements in the domestic industries (38.2 percent, table 9).<sup>9</sup> Three products; phosphoric acid, crude sulphur, and soaps; are part of the 32 products not included in the large sample.

TABLE 9.—*Sample of high industrial concentration, 49 chemical products, mainly of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production	
				Value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	28	312	409	209, 957, 842	38. 2
Duties restrictive, but monopolistic elements not significant.....	4	233	266	278, 711, 517	50. 8
Duties not restrictive, no effect on monopoly.....	11	81	200	60, 194, 458	11. 0
Free of duty.....	6	63	95	58, 133, 681	9. 6
Total.....	49	689	970	606, 997, 498	-----

<sup>1</sup> Percent free of duty is based on total for the group; percentages for the remainder of the group are based on the total of dutiable products in the group.

One of the eight products free of duty is sodium bicarbonate. It is produced by the soda-ash industry. Soda ash (sodium carbonate) is the most important industrial alkali; the primary product of the entire alkali industry. Domestic production of soda ash in 1937 was valued at approximately \$30,000,000. About one-third of the output is used for the manufacture of glass; another third, for the production of caustic soda and other alkalies; and the remainder, mostly for the manufacture of soap and paper. Soda ash is dutiable at one-fourth cent per pound; caustic soda, at one-half cent per pound; and modified sodas and super alkalies at various rates.

Because of incomplete data soda ash, caustic soda (sodium hydroxide), and modified sodas are not included in the sample. Removal or substantial reduction of duties, however, would probably improve

<sup>8</sup> A schedule of information for each product is given in Appendix II, Group D. Census classifies residuum or tar with petroleum and coal products.

<sup>9</sup> They are caffeine; amyl and butyl acetates; chromic, citric, oxalic, and tartaric acids; bromine; calcium carbide; carbon tetrachloride; sal ammoniac; refined glycerine; potassium hydroxide; ammonium nitrate; hydrogen peroxide; sodium silicate; aluminum, copper and magnesium sulfates; lithopone; litharge; red lead; zinc oxides; white lead; whiting; two kinds of coal-tar resins; and cartridges.

competitive conditions. Soda ash is produced by 10 companies which own 13 plants. Six large companies operating 9 plants and using the ammonia-soda process account for most of the output. The four largest companies produce approximately 75 percent of the total. These companies are also the principal producers of caustic soda, sodium bicarbonate, modified sodas, and super alkalies. In some instances the last two products are made by subsidiaries or independents which buy soda ash from these companies.

Soda ash is sold mostly on the basis of grades and contract prices. A basing-point price policy is used for l. c. l. shipments. Nearly all of the companies are members of the United States Alkali Export Association, Inc. which is organized under the Webb-Pomerene Act. The association probably has exclusive export rights. The principal European producers belong to the International Alkali Cartel. Apparently some allocation of export markets is arranged by these two combinations. Although the domestic industry is on an export basis for soda ash and some of its products, the duties on imports probably assist materially in the maintenance of monopolistic elements within the industry.

The borates industry is closely related to the soda ash industry. One of the two largest companies producing borates also produces sodium carbonate. One of the companies producing sodium carbonate and sodium bicarbonate also produces borax as a byproduct. The borates industry also overlaps with the potash industry. An important product of the latter is potassium hydroxide which is one of the 28 products referred to previously. In 1936 the Department of Justice began an investigation under the Sherman Act of the potash industry because of the use of a basing-point system. The industry is organized in a trade association and in an export association (Webb-Pomerene). Refined borax and boric acid are included with the products for which duties do not seem to restrict imports. Although these products are exported in large quantities, the duty on imports of boric acid, especially in eastern coastal areas, may contribute to monopolistic elements in the domestic industry. Two companies, one of which is a subsidiary of a large international concern, supply approximately 85 percent of the domestic production of crude and refined borates.<sup>10</sup>

An important group of products for the coal-tar industry is not included in the sample because of the need for additional data in order to make a detailed analysis. These products are the numerous coal-tar dyes. About 800 individual dyes are produced in the United States and about the same number, not produced domestically, are imported. In many instances these dyes are sold under several trade names and in several strengths. Values vary from about 15 cents to several dollars per pound. Very high duties were imposed on dyes after the World War for the purpose of establishing an American dye industry. These duties, originally 60 percent ad valorem (based on American selling price for imports of competitive dyes) and 7 cents per pound, practically prohibited the importation of cheaper dyes. The Tariff Act of 1922 provided that at the end of a 2-year period the ad valorem part of the duty became 45 percent ad valorem. In the Swiss trade agreement, effective February 15, 1936, the ad valorem rate was reduced to 40 percent and the specific rate was eliminated, but the

<sup>10</sup> An analysis of the industry is given in chapter V, The Borates Industry.

minimum duty was the equivalent of 22½ percent ad valorem plus 3½ cents per pound. Trade-agreement duties are not applicable to imports from Germany. No substantial increase in imports of cheaper dyes has occurred.

Domestic production of dyes increased from an average of 94,000,000 pounds during the period 1925-30 to 122,000,000 pounds in 1937. In the latter year five companies supplied approximately 87 percent of the output; the four largest ones, more than 75 percent of the output.<sup>11</sup> Two of the companies are subsidiaries of German and Swiss companies which were established in the United States after the sharp increase in duties. The European dye cartel composed mainly of German, Swiss, and French companies allocates markets, formulates price-policy, and serves as a clearing agency for technical information.

In the domestic industry the larger companies make a full line of products and are in a position to withhold certain essential dyes unless buyers purchase all their requirements from them. The larger companies also sell substantial quantities of intermediates to the small companies which enables them to extend their control over the market. A large number of dyes, especially the newer ones, are controlled by patents. The existing duties are a partial support for monopolistic elements in the domestic industry.

#### 6. RUBBER AND LEATHER PRODUCTS

The fifth group consists of 9 products in the rubber and leather industries which have a total value of \$563,530,863.<sup>12</sup> In all cases imports are subject to duties. About 10.7 percent on a value basis was subject to duties of 30 to 59 percent; and 89.3 percent, to duties of 29 percent or less. The duties probably restrict appreciably imports of the following 7 products (13.4 percent of the total): Gutta-percha products, rubber thread, rubber combs, rubber boots and shoes, rubber nipples and pacifiers, goat and kid lining leather, and skivers. For these products, except the last three, removal or substantial reduction of duties would assist in offsetting monopolistic elements in the domestic industries (11.9 percent of the total, table 10).

TABLE 10.—*Sample of high industrial concentration, 9 rubber and leather products of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production	
				Value in 1937	Per cent
Monopolistic elements in domestic industries partially mitigated.....	4	44	46	\$67,459,854	11.9
Duties restrictive, but monopolistic elements not significant.....	3	38	39	8,268,999	1.5
Duties not restrictive, no effect on monopoly.....	2	48	61	487,802,010	86.6
Free of duty.....	None				
Total.....	9	130	146	563,530,863	

<sup>11</sup> They are the Allied Dye & Chemical Corporation, du Pont, the General Aniline Works, the American Cyanamid & Chemical Corporation, and the Cincinnati Chemical Works.

<sup>12</sup> A schedule of information for each product is given in appendix II, group E. Rubber and leather products are classified separately by the Census.



One of the above products, rubber thread, is controlled largely by patents. It is used principally in the manufacture of elastic webbing, elastic yarn, elastic fabric, and golf balls. Domestic production of rubber thread was valued at \$3,375,477 in 1937. This figure probably represents sales and excludes thread produced and manufactured into other products by the same company. Four companies<sup>13</sup> in 1937 probably produced more than 90 percent of the domestic output; the largest, probably more than 75 percent. The United States Rubber Co. holds patents for the manufacture of thread and yarn. It uses part of its output of rubber thread in the manufacture of "lastex" and golf balls; the remainder is sold to companies making similar products. It recently acquired one of the four companies, the Chatham Manufacturing Co. The Goodrich Co. and the Easthampton Rubber Thread Co. also hold important patents for the manufacture of rubber thread. The former pools its patents with those of the United States Rubber Co. and a few foreign companies. It uses all of its rubber thread in making partly finished golf balls, that is, finished except for the outer covering. The Easthampton Co. is owned by the United Elastic Corporation which also controls three companies manufacturing elastic webbing. A large part of its output is taken by these three companies.

There are two international cartels: International Latex Products, Inc., Birmingham, England, and the International Rubber Thread Association, Zurich, Switzerland. The United States Rubber Co. and the Goodrich Co. belong to the first, and the Goodrich and Easthampton Cos. belong to the second. With the British Dunlop Co., the United States Rubber Co. jointly controls the Dunlop-Revere Thread Co. It is also financially interested in an Italian company.

The domestic rubber thread industry is on an export basis. Imports which are dutiable at 25 percent ad valorem are negligible. Although removal or substantial reduction of the duty would probably not increase imports appreciably, prices would probably be lowered slightly in order to discourage some foreign selling in the domestic market. In any event the tariff would be eliminated as a bargaining point in the allocation of international markets.

Only two products in the leather industry are included in the special study. Approximately 50 leather products included in the high concentration class of the sample of 1,807 products were not analyzed here. They met the requirements of the special study with regard to value and concentration, but in many cases they represented very minor parts of larger product-groups in the leather industry. Incomplete data, moreover, and the lack of correspondence between classifications of the census and the tariff made inadequate an analysis of larger-product groups.

#### 7. STONE, CLAY, AND GLASS PRODUCTS

The sixth group consists of 27 products of the stone, clay, and glass industries which have a total value of \$376,600,402.<sup>14</sup> None of the products is free of duty. About 20 percent on a value basis was

<sup>13</sup> They are the United States Rubber Co., Easthampton Rubber Thread Co., Chatham Manufacturing Co., and the B. F. Goodrich Co.

<sup>14</sup> A schedule of information for each product is given in appendix II, group F.

subject to duties of 60 percent or more; 52 percent, to duties of 30 to 59 percent; and 28 percent, to duties of 29 percent or less. The duties probably restrict appreciably imports of the following 15 products (50.2 percent of the total): asbestos shingles and lumber; asbestos roving, yarn, and cloth; asbestos packing; chemical porcelain and stoneware; gypsum plasters; Keene's cement; gypsum board; glass tableware (machine-made); scientific glassware; spectacle glass; sheet, plate, rolled, and structural glass; and porcelain insulators. For these products, except the last one, removal or substantial reduction of duties would assist in offsetting monopolistic elements in the domestic industries (48.5 percent of the total, table 11). Two products, technical and scientific glassware, and spectacle glass, are part of the 32 products not included in the sample of 1,807 products.

TABLE 11.—*Sample of high industrial concentration, 27 stone, clay, and glass products mainly of the Census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production	
				Value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	14	140	240	\$182,694,773	48.5
Duties restrictive, but monopolistic elements not significant.....	1	14	15	6,439,283	1.7
Duties not restrictive, no effect on monopoly.....	12	172	228	187,466,346	49.8
Free of duty.....	None				
Total.....	27	326	483	376,600,402	-----

In addition to the three asbestos products listed above four others are included in the group. Apparently duties on the imports of these four products do not restrict foreign selling in the domestic market. Several products of the gypsum industry and of the flat-glass industry are included in the sample. An analysis of these industries is given in chapters 3 and 4.

#### 8. NONFERROUS METALS AND PRODUCTS

The seventh group consists of 10 metals and products of the non-ferrous industries which have a total value of \$495,141,678.<sup>15</sup> One product, tin ingots and pigs, is free of duty or import tax (1.7 percent of the total). About 66 percent on a value basis was subject to duties of 30 to 59 percent; and 32 percent, to duties of 29 percent or less. Duties and import taxes probably restrict imports of the following products (82.3 percent of the total): blister and refined copper; brass and bronze tubing and pipe; aluminum ingots; aluminum ware; nickel alloys; and factory lighting fixtures. For these products, except the last one, removal or substantial reduction of duties and import taxes would assist in offsetting monopolistic elements in the domestic industries (81.5 percent, table 12). Two products, blister and refined copper, and aluminum ingots, partly belong with the 32 products not included in the sample of 1,807 products.

<sup>15</sup> A schedule of information for each product is given in appendix II, group G.

TABLE 12.—*Sample of high industrial concentration, 10 nonferrous products mainly of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	5	138	164	\$397,719,363	81.8
Duties restrictive, but monopolistic elements not significant.....	1	10	10	2,019,972	.5
Duties not restrictive, no effect on monopoly.....	3	51	70	86,952,343	17.7
Free of duty.....	1	28	31	8,450,000	1.7
Total.....	10	227	275	495,141,678	-----

<sup>1</sup> Percent free of duty is based on the total for the group; percentages for the remainder are based on the total of dutiable products in the group.

## 9. IRON AND STEEL PRODUCTS

The eighth group consists of 27 products in the iron and steel industries which have a total value of \$918,106,807.<sup>16</sup> In all cases, imports are subject to duties. About 4 percent on a value basis was subject to duties of 60 percent or more; 28 percent, to duties of 30 to 59 percent; and 68 percent, to duties of 29 percent or less. The duties probably restrict appreciably imports of the following 16 products (60.1 percent): semifinished rolled steel products; hot-rolled steel strips and flats; heavy steel structural shapes; universal steel plates; steel sheet piling; stainless steel plates, strips and flats; steel saw plates; steel cotton ties; black plate steel; firearms; muck and scrap bar; cast-iron pipe; metal furniture; solid metal window sash and frames; saddlery and harness hardware; and metal working files and rasps. For these products except the last 6, removal or substantial reduction of duties would assist in offsetting monopolistic elements in the domestic industries (56 percent, table 13).

TABLE 13.—*Sample of high industrial concentration, 27 iron and steel products of the census of 1937, according to effectiveness of tariff in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	10	135	247	\$514,475,021	56.0
Duties restrictive, but monopolistic elements not significant.....	6	213	239	36,892,805	4.1
Duties not restrictive, no effect on monopoly.....	11	162	316	366,738,981	39.9
Free of duty.....	None	-----	-----	-----	-----
Total.....	27	510	802	918,106,807	-----

## 10. AGRICULTURAL AND AUTOMOTIVE MACHINERY AND RELATED PRODUCTS

The ninth group consists of 13 products, mainly agricultural and automotive machinery, which have a total value of \$3,189,138,761.<sup>17</sup>

<sup>16</sup> A schedule of information for each product is given in appendix II, group II.

<sup>17</sup> A schedule of information for each product is given in Appendix II, Group I. This group includes transportation equipment which is classified separately by the census.

Two of the products, agricultural implements and wheel-type tractors are free of duty (8 percent of the total). About 2 percent on a value basis was subject to duties of 30 to 59 percent; 90 percent, to duties of 29 percent or less. Approximately on 99 percent of the dutiable products, the duties are not restrictive. Duties probably restrict imports of three products, Diesel engines (marine and auxiliary), marine outboard motors, and hand implements. Removal of the duties on the first two products would offset minor monopolistic elements in the domestic industry (0.37 percent, table 14).

TABLE 14.—*Sample of high industrial concentration, 13 agricultural and automotive machinery products of the census of 1937, according to the effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	2	12	12	\$10,964,604	0.37
Duties restrictive, but monopolistic elements not significant.....	1	44	49	14,817,049	.5
Duties not restrictive, no effect on monopoly.....	8	177	264	2,919,363,279	99.13
Free of duty.....	2	42	44	243,993,829	.18
Total.....	13	275	369	3,189,138,761	-----

<sup>1</sup> Percent free of duty is based on the total for the group; percentages for the remainder are based on the total of dutiable products in the group.

The agricultural-implement industry is an example of industrial concentration associated with monopolistic elements, but not associated with duties on imports. The early development of the industry in the United States, the need for adapting agricultural machinery to local conditions, the political power of farmers, and high costs of transportation largely account for the absence of duties on imports. The industry is on an export basis. Since 1902 when the International Harvester Co. was formed by a merger of 5 leading producers, the industry has exhibited a high degree of industrial concentration. Antitrust prosecution of the International Harvester Co. which began in 1912 ended in 1918 with a consent decree for partial dissolution and modification of merchandising policies. In 1937 there were eight, large, full-line companies which produced nearly all of the main agricultural implements. Four of these companies, not always the same ones, produced from 77 to 91 percent of the output of certain types of farm machinery. The International Harvester Co. is the leading producer.<sup>18</sup>

#### 11. MACHINE TOOLS AND EQUIPMENT

The tenth group consists of 28 products in the machine-tool industries which have a total value of \$179,668,070.<sup>19</sup> Imports in all instances are subject to duties which are, with a few exceptions, 30 percent ad valorem; all are in the range of 30 to 59 percent. Duties probably restrict imports of the following 10 products (31.3 percent): Cutting-off machines, drilling machines, drop hammers, portable elec-

<sup>18</sup> A detailed analysis of the industry is given in a Federal Trade Commission Report, dated June 6, 1938.

<sup>19</sup> A schedule of information for each product is given in appendix II, group. All the products of this group are classified as "machinery, not including transportation equipment" by the census.

tric drills, shear and punch presses, precision measuring tools, hobbing machines, threading machines, milling machines, and gear cutters. With regard to the last 5 products, removal or substantial reduction of duties would probably assist in offsetting monopolistic elements in the domestic industries (17.3 percent, table 15).

TABLE 15.—*Sample of high industrial concentration, 28 machine-tool products of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production, value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	5	52	52	\$31, 191, 986	17.3
Duties restrictive, but monopolistic elements not significant.....	5	70	71	25, 063, 992	14
Duties not restrictive, no effect on monopoly.....	18	225	231	123, 412, 092	68.7
Free of duty.....	None	-----	-----	-----	-----
Total.....	28	347	354	179, 668, 070	-----

Because of the numerous special types of machine tools, fewness of producers in many instances is apparently not associated with significant monopolistic elements. The analysis, however, does not indicate the extent to which certain companies may be the principal producers of several types of equipment. In view of the basic importance of this industry to the economy of the country, additional information is needed with regard to its organization and its status in international trade.

## 12. ELECTRICAL MACHINERY, EQUIPMENT, AND RELATED PRODUCTS

The eleventh group consists of 46 products, mostly electrical machinery and equipment, which have a total value of \$1,157,447,593.<sup>20</sup> Imports of these products, with one exception, typewriters, are subject to duties (96 percent of the total). About 65 percent on a value basis was subject to duties of 30 to 59 percent; 31 percent, to duties of 29 percent or less. The duties probably restrict imports of the following 21 products (45.4 percent): Miniature electric meters, electric appliance and extension cords, brass shell sockets, flexible metal conduit, electric motor-control apparatus, dry batteries, flashlight cases, X-ray apparatus and tubes, electric furnaces and heaters, electric storage water heaters, electric generators and converters, transformers, watt-hour meters, incandescent filament lamps (small tungsten), carbon and graphite electrodes, electric household equipment, electric ranges, receiving sets, mechanically powered phonographs, telephone and telegraph equipment, and calculating machines. For the last 11 products listed, removal or substantial reduction of duties would probably assist in offsetting monopolistic elements in the domestic industries (39.1 percent, table 16). Three products—electrodes, lighting carbons, and sewing machines—are part of the 32 products not included in the sample of 1,807 products.

<sup>20</sup> A schedule of information for each product is given in Appendix II, Group K. All the products in this group are classified as "Machinery, not including transportation equipment," by the census.



TABLE 16.—*Sample of high industrial concentration, 46 electrical products mainly of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production	
				Value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated .....	11	195	230	\$435, 372, 511	39. 1
Duties restrictive, but monopolistic elements not significant .....	10	163	187	69, 733, 179	6. 3
Duties not restrictive, no effect on monopoly .....	24	422	456	608, 842, 762	54. 6
Free of duty .....	1	15	23	43, 499, 141	4. 0
Total .....	46	795	896	1, 157, 447, 593	-----

<sup>1</sup> Percent free of duty is based on the total for the group; percentages for the remainder are based on the total of dutiable products in the group.

The significance of duties for many of the products included in this group of the sample is difficult to estimate. Additional information is needed in order to shift the analysis from a product basis to an industry basis. A few companies and their subsidiaries are probably the same principal producers in several sections of the electrical industry. A high degree of concentration, moreover, in the domestic industry is associated with extensive international connections. The General Electric Co., for example, is the largest domestic producer of electric lamps and several other kinds of electrical equipment.<sup>21</sup> It is also connected, directly and indirectly (International General Electric Co.) by financial interests and agreements with many important foreign companies. Although duties in some cases do not apparently restrict imports, they may be significant in the international allocation of markets. Removal of duties in certain instances might not be followed by any appreciable increase in imports, but domestic prices might be lowered in order to discourage any attempt of foreign selling in the domestic market by independent companies or by potential violators of agreements.

### 13. MISCELLANEOUS PRODUCTS

The twelfth and last group consists of 36 miscellaneous products which have a total value of \$1,353,707,072.<sup>22</sup> Imports of these products, with one exception, binder twine, are subject to duties (99.3 percent). About 68 percent on a value basis was subject to duties of 60 percent or more; 22 percent, to duties of 30 to 59 percent; and 9.3 percent, to duties of 29 percent or less. The duties probably restrict imports of 25 products (13.7 percent). For 13 of these products, removal or substantial reduction of duties would assist in offsetting monopolistic elements in the domestic industries (9 percent, table 17).<sup>23</sup> The group of 13 products includes four kinds of glue, press cloth of human hair, tooth brushes, sensitized photographic paper, photographic film, motion-picture projectors, tennis balls, golf balls, slide fasteners, and phonograph-record blanks.

<sup>21</sup> The Singer Co., which controls probably 75 percent of the world production of sewing machines is another example.

<sup>22</sup> A schedule of information for each product is given in Appendix II, Group L. Seventeen products: glues (4 kinds); briar pipes; chewing gum; binder twine; press cloth; wax crayons; tooth brushes; slide fasteners; buttons (3 kinds); phonograph needles, record blanks, and disk records; are part of the 32 products not included in the sample of 1,807 products.

<sup>23</sup> The other 12 products are snuff, briar tobacco pipes, wax crayons, photographic X-ray film, baseballs, golf club shafts, steel fishing rods, metal buttons, vegetable ivory buttons, bone and horn buttons, phonograph needles, and certain musical instruments.



TABLE 17.—*Sample of high industrial concentration, 36 miscellaneous products mainly of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production	
				Value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	13	150	174	\$121,493,798	9.0
Duties restrictive, but monopolistic elements not significant.....	12	126	129	63,506,049	4.7
Duties not restrictive, no effect on monopoly.....	10	818	865	1,160,125,549	86.3
Free of duty.....	1	13	14	8,581,676	1.7
Total.....	36	1,107	1,182	1,353,707,072	-----

<sup>1</sup> Percent free of duty is based on the total for the group; percentages for the remainder are based on the total of dutiable products in the group.

One of the above products, slide fasteners (zippers), is an example of a high degree of industrial concentration accompanied by a recent increase in the duty on imports. In 1937 the industry consisted of five companies and six plants which produced an output valued at approximately \$15,000,000.<sup>24</sup> The four largest companies accounted for more than 90 percent of the output; the largest company, for about 70 percent. Although basic patents expired in 1934, the largest company, Talon, Inc., still holds patents on manufacturing processes and improved features of slide fasteners. The duty on imports was increased from 20 to 40 percent ad valorem in the act of 1922; it was increased to 45 percent in the act of 1930. Under the flexible provision of the act of 1930 (sec. 336) the duty was increased to 66 percent ad valorem in July 1936. In 1937 imports were valued at \$869,829. Imported slide fasteners consist mainly of common types and are used in cheap merchandise. A substantial reduction of the duty would increase imports, would lower domestic prices, and would assist in offsetting monopolistic elements in the domestic industry.

#### 14. SUMMARY

A summary of the 317 products included in the foregoing 12 groups is presented in table 18.

TABLE 18 (summary).—*Sample of high industrial concentration, 317 products mainly of the census of 1937, according to effectiveness of tariffs in 1937*

Probable effects of reduction or removal of duties	Number of products	Number of companies	Number of plants	Domestic production	
				Value in 1937	Percent
Monopolistic elements in domestic industries partially mitigated.....	117	1,888	2,500	\$2,635,190,632	27.7
Duties restrictive, but monopolistic elements not significant.....	74	1,448	1,577	660,572,835	7.0
Duties not restrictive, no effect on monopoly.....	114	2,390	2,977	6,198,504,245	65.3
Free of duty.....	12	164	213	386,529,366	3.9
Total.....	317	5,890	7,267	9,880,797,078	(1)

<sup>1</sup> The first 3 percentages are based on the total of dutiable products, namely, \$9,494,267,712. The percent free of duty is based on the total for all 317 products.

Source: Census of Manufactures, 1937. Foreign Commerce and Navigation of the United States. Temporary National Economic Committee Industrial Concentration Study.

<sup>24</sup> One or two minor producers are probably not included in the census data.

Only 12 products were free of duty—3.9 percent of the total value of the group. Of the remainder, 14.7 percent were subject to duties of 60 percent or more ad valorem or equivalent; 27.5 percent, to duties of 30 to 59 percent; and 53.9 percent to duties of 29 percent or less. Of these dutiable groups, however, duties probably had little or no effect on imports for 65.3 percent of the total value. Although duties were restrictive for 34.7 percent of the dutiable products, removal or reduction of duties would probably offset monopolistic elements in domestic industries for 27.7 percent of the dutiable group.

The analysis indicates no close connection between the height of duties and their restrictive effects on imports. It also indicates no close connection between a high degree of industrial concentration and restrictive tariffs. The index, moreover, of high industrial concentration (4 companies or less supply 75 percent or more of the output of a given product), calculated on a product basis rather than an industry basis, is frequently of no practical significance as an indicator of monopolistic elements. Nevertheless, the analysis does show that for a substantial portion of the products, removal or reduction of restrictions on imports would at least partially offset monopolistic elements in domestic industries.

## CHAPTER III

### THE GYPSUM INDUSTRY

#### 1. CRUDE GYPSUM AND PRODUCTS OF GYPSUM

Gypsum in the crude state generally occurs in rocklike, impure deposits,<sup>1</sup> large and small, in many parts of the United States,<sup>2</sup> and in other countries. About 20 percent of the domestic consumption of crude gypsum is used in a crushed, raw form by the Portland cement industry. A small percentage of crude gypsum (about 2 percent) is ground to a powder and is used mainly in agriculture as a "land plaster" (for the production of peanuts); minor uses are as a filler in paper and cloth, for modeling, and as a paint pigment.

The bulk of crude gypsum for domestic consumption is reduced to a powder and calcined, that is, roasted at low temperatures until three-fourths of the combined water is driven off. Calcined gypsum, commonly known as plaster of paris, without further manufacture is confined to a few special uses, such as bedding in the grinding of plate glass, gaging plaster for a lime putty coat, and for molding purposes generally. Nearly all calcined gypsum produced in the United States from both domestic and imported crude is an intermediate product in the manufacture of finished building materials.

The most important building materials made from calcined gypsum are wall plasters, wallboard, and plaster board (a substitute for wood or metal lath). These products are sold under many trade names, such as sheetrock, gyprock, and Rocklath. Fiberboard, such as Beaverboard, Upson board, and Celotex, which is used for similar purposes, is not a gypsum product. Some hard-finish plasters or cements are made from pure raw gypsum calcined at higher temperatures than for ordinary plaster of paris. Keene's cement is the most important of the hard-finish plasters. Gypsum, sufficiently pure for its manufacture, is localized largely in the State of Kansas.

#### 2. TARIFF HISTORY

Since 1846 imports of certain products of the gypsum industry have been restricted by tariffs. The peak of restriction was reached in the Tariff Act of 1897 when crude gypsum was made dutiable at \$0.50 per ton and ground or calcined gypsum at \$2.25 per ton.

Crude gypsum, not ground, was dutiable at 10 percent ad valorem under the Tariff Act of 1913. In the acts of 1922 and 1930 (par. 1743) it was made free of duty. Since crude gypsum loses about 15 percent of its weight when calcined, the crude product is usually not shipped long distances. Deposits in New York State, however, are

<sup>1</sup> Gypsum when crystalline, white, and nearly transparent is called selenite; when fine-grained, white or delicately tinted, alabaster; when fibrous, satin-spar. These types are usually very pure. Some synthetic gypsum is made as a byproduct of phosphoric acid manufacture in New Jersey and Florida.

<sup>2</sup> Approximately 80 percent of domestic, crude production is in 6 States: New York, Iowa, Michigan, Texas, Ohio, and Nevada.

400 miles inland from the main eastern markets and plants making gypsum products which are located on or near the Atlantic seaboard because of lower transport costs import their crude rock from Canada. Plants in California and Washington import crude from Mexico. The United States Gypsum Co. is the most important producer of domestic and Canadian gypsum. It is also the largest producer in western New York and has opposed the request for a tariff on crude gypsum by other operators in that region. The duty-free status of crude gypsum was bound in the trade agreements with Canada (effective January 1, 1936 and 1939).

Gypsum, ground or calcined, was dutiable at 10 percent ad valorem in the Tariff Act of 1913. In the acts of 1922 and 1930 (par. 205 (a)) it was made dutiable at \$1.40 per ton. The equivalent ad valorem rate of the specific duty on ground gypsum averages slightly above 10 percent; on calcined gypsum, slightly below 10 percent. Imports are very small, chiefly from the United Kingdom, and consist mainly of uncommon or special grades of calcined gypsum. The duty of \$1.40 per ton was bound in the trade agreement with the United Kingdom (effective January 1, 1939).

Gypsum products prepared for building purposes (plasters, wall-board, plasterboard, etc.) were dutiable at 25 percent ad valorem in the Tariff Act of 1913. In the acts of 1922 and 1930 (par. 205e) they were made dutiable at 35 percent. Imports are negligible (chiefly from Japan, the United Kingdom, Germany, and France) and consist of prepared plasters, a few blocks and tile, and specialty items.

Keene's cement and other gypsum cements were dutiable at 10 percent ad valorem in the Tariff Act of 1913. In the acts of 1922 and 1930 (par. 205c) they were made dutiable at \$3.50, \$5, \$10, and \$14 per ton (long) depending upon the value.<sup>3</sup> Imports are very small, are confined primarily to the higher-value brackets, and are supplied primarily by the United Kingdom. The equivalent ad valorem rate of the specific duties averages about 30 percent.

### 3. DOMESTIC PRODUCTION, IMPORTS, AND EXPORTS

The domestic production of crude gypsum increased rapidly after 1898 when gypsum wall plaster began to replace lime plaster. A decline occurred during the World War period, but the upward trend was resumed sharply in 1923. Building activity was improving and two new gypsum products, wallboard and plasterboard, were gaining general acceptance. In 1925, the record high year, 5,678,302 tons of crude gypsum were mined in the United States. A depression low of 1,335,192 tons occurred in 1933. Since 1933 domestic production has increased to 3,058,166 and 2,684,205 tons in 1937 and 1938, respectively, with an estimated value of \$4,782,502 and \$4,721,674.

Imports of crude gypsum increased very slowly during the first period mentioned above. Imports did not reach the pre-war level until 1923 when 448,129 tons of crude gypsum were imported. Although domestic production was declining from 1925 to 1929, imports

<sup>3</sup> Valued at \$14 per ton or less the duty was \$3.50; above \$14 and not over \$20 per ton, duty of \$5; above \$20 and not over \$40 per ton, duty of \$10; and valued above \$40 per ton, duty of \$14.

continued to increase and reached a peak of 1,036,385 tons valued at \$1,060,874 in 1929. This increase was due to an expansion in the number and capacity of processing plants on the Atlantic seaboard which use Canadian gypsum. A depression low for imports of 359,470 tons occurred in 1933. Since 1933 imports of crude gypsum have increased to 897,484 and 789,429 tons in 1937 and 1938, respectively, valued at \$854,835 and \$772,026.

Although a special freight rate on crude gypsum of \$2.50 (\$1 less than the regular rate) is granted by railways on shipments from western New York for export, exports of crude gypsum are negligible.

Approximately 80 percent of the domestic and imported crude gypsum is either ground or calcined; about 20 percent is used in a crushed form by the cement industry.<sup>4</sup> Only a small percentage of the combined supply of crude (about 5 percent) is sold in a ground or calcined form; slightly more than 2 percent in a ground form (land plaster, fillers, etc.); approximately 3 percent in a calcined form (glass bedding, gaging, molding, dental plasters, etc.). Nearly all of the remaining 75 percent of the total crude supply is ground, calcined, and fabricated into building materials by concerns which sell the finished gypsum building products.

Domestic production and sale of ground and calcined gypsum have not varied greatly in recent years. Sales of the ground product amounted to 90,821 and 82,503 short tons, respectively, in 1937 and 1938 valued at \$458,237 and \$442,656. For the same years sales of the calcined products amounted to 125,853 and 94,248 short tons valued at \$1,363,130 and \$1,154,517. Prior to 1928 a larger proportion of the calcined product was made from imported crude than in recent years.

Imports of ground and calcined gypsum are small relative to the domestic production and sale. In 1937 and 1938 ground imports amounted to 1,711 and 1,486 short tons, respectively, valued at \$22,165 and \$17,674. Calcined imports for the same years totaled 353 and 372 short tons valued at \$7,917 and \$7,649. Imports in 1925-29 were about 3 times the present imports; in 1914 about 5 times. Domestic sale of ground gypsum is largely for agricultural uses, whereas imported ground gypsum is not used for agriculture. Probably no imported calcined gypsum is used by plate-glass plants. Imports of calcined gypsum consist largely of special grades and types.

Exports of gypsum, ground or calcined, are not recorded separately, but they probably do not exceed imports.

The main products of the gypsum industry, as indicated previously, are calcined, fabricated materials for use in the building industry. Sales data for these products are given below (table 19). Production and sales follow very closely changes in building activity. One exception, however, has appeared since 1934, namely, plasterboard, the sales of which have increased sharply in recent years. The production and sales level for the other products in 1937 and 1938 is approximately that of 1930 and 1931, but about 50 percent below the 1928 level.

<sup>4</sup> In 1937 sales (f. o. b. factories) total 770,004 tons valued at \$1,462,469; in 1938 they totaled 674,062 tons valued at \$1,238,715 (Mineral Yearbook 1939, U. S. Bureau of Mines).



TABLE 19.—*Gypsum building products (except Keene's cement) sold in the United States, 1937 and 1938*<sup>1</sup>

Product	1937		1938	
	Short tons	Value	Short tons	Value
Building plasters.....	1,634,890	\$15,479,391	1,461,467	\$13,543,442
Wallboard <sup>2</sup> .....	241,096	8,349,810	260,949	7,921,400
Plasterboard (lath) <sup>2</sup> .....	469,970	9,604,372	594,659	10,287,935
Tile.....	137,006	1,552,248	112,477	1,300,830
Total.....	2,482,962	34,985,821	2,438,552	33,053,607

<sup>1</sup> Sales are f. o. b. factories. Data for prior years are not comparable. Keene's cement is given separately below.

<sup>2</sup> Weights are estimated by producers.

Source: Compiled from statistics of the U. S. Bureau of Mines.

Imports of gypsum building materials are insignificant. They have increased since 1932, but the totals for 1937 and 1938 were only \$59,735 and \$31,268, respectively.<sup>5</sup> Imports consist of small amounts of prepared plasters, a few blocks and tiles, and a variety of specialties.

Exports of gypsum building materials exceed imports, but they are not large as compared with domestic sales. Exports of plaster board and wallboard amounted to \$96,019 and \$88,822 in 1937 and 1938, respectively. These products are exported to many markets, but the Philippine Islands is the chief market. Exports were much larger in 1929 (\$442,983) and considerably less in 1933 (\$36,057) than in recent years. Exports of plaster, calcined, and manufactures totaled \$61,383 and \$71,914 in 1937 and 1938, respectively.<sup>6</sup> Canada is an important market for these products. Exports in 1929 amounted to \$481,316 and then declined to a depression low of \$72,094 in 1932. Prior to 1933 Canada, the United Kingdom, and New Zealand were important markets for American exports of wallboard and plaster board. In 1932-33 Canadian plant capacity was enlarged for the manufacture of these products. In 1934 a large plant near London under British-Canadian ownership, equipped with modern American designed machinery, began operations. These developments account in part for the present low level of American exports. Since plaster deteriorates in 4 to 6 months, it is not usually shipped long distances nor stored in large quantities.

Keene's cement, while in no sense as important a gypsum cement as plaster of paris, is a manufactured building material of sufficient importance for separate analysis. It was originally manufactured under English patents which have long since expired. Domestic manufacturers usually produce several grades, but the grade used for artificial marble finishes is the most important one. In 1933 five companies, several of which produced other gypsum products, manufactured Keene's cement, but 1 company considerably outranked the others. Approximately the same situation had prevailed for many years. Domestic sales increased from 15,395 short tons (\$200,360) in 1919 to a peak of 54,020 tons (\$848,504) in 1928. Sales then declined to a depression low of 13,529 tons (\$194,075) in 1933.

<sup>5</sup> These totals do not include imports of statues, statuettes, and bas-reliefs of which plaster of paris is the component material of chief value. A few of these items might be classified as building materials, but most of them are art objects. Imports, moreover, in this class are very small. The duty was reduced from 60 to 10 percent ad valorem in the French trade agreement (June 15, 1936).

<sup>6</sup> Includes indeterminable amounts of calcined gypsum (plaster of paris).



Since that time sales have increased to 34,260 tons (\$530,863) and 23,496 tons (\$366,813) in 1937 and 1938, respectively. Keene's cement, unlike ordinary plasters, can be shipped and stored for years without deterioration.

Imports are negligible as compared with domestic production. In 1919 they totaled 187 short tons (\$5,984). For the 5-year period prior to the World War they averaged about 1,300 short tons. Imports increased steadily after 1919 and reached a peak of 1,146 short tons (\$37,175) in 1930. Since that year imports have declined irregularly; they totaled 25 tons (\$675) and 6 tons (\$130) in 1937 and 1938, respectively. Transportation charges from Kansas, center of the domestic industry, to New York City, are about the same as ocean rates from the United Kingdom. Apparently the duty is quite significant.

#### 4. TRENDS IN CONCENTRATION

In 1902 there were 62 active mines and quarries in the United States and 45 operators producing domestic crude and calcined gypsum.<sup>7</sup> One operator, the United States Gypsum Corporation, owned 16 of the active units. Another multiple-plant operator, the Acme Cement Plaster Co., had 3 active units. About 17 mines or quarries, mostly owned by individuals, were idle during the year. In the active group, 13 individual enterprises and 6 firms produced only 3.6 percent of the crude gypsum. Probably the United States Gypsum Corporation produced more than half the total output.

The latter concern had been incorporated (New Jersey) in 1901 as a merger of 26 independent producers who operated in the main gypsum producing States.<sup>8</sup> In 1903 the official report read as follows: "An attempt has been made to govern the industry in a large section of the country by the organization of the United States Gypsum Co., which controls the greater proportion of the deposits in Iowa, and in part also those which have been developed in Kansas, Michigan, New York, Oklahoma, and Ohio."<sup>9</sup> One year later the report was that "the United States Gypsum Co. continues to be the largest holder of gypsum mills and properties."<sup>10</sup> In the interim 1 or 2 units had been dropped, several operations had been consolidated, at least 10 plaster-mixing plants had been built or acquired, and several important mining enterprises in New York and Ohio had been added. In 1904 it operated 35 enterprises nearly all of which engaged in the production and fabrication of gypsum.<sup>11</sup> The combination was primarily horizontal, but the nature of the industry at this stage of its development also made it a compact vertical combination.

As a result of the financial stringency in 1907 competition of a kind not previously experienced ensued, but the old order apparently quickly reappeared. The official report was that "prices were seriously affected by the industrial depression, it is true, but the general decrease in price is more directly due to the very active competition that is becoming characteristic of the gypsum business. Keen competition involving price cutting, introduction of specialties, more liberal advertising, and an aggressive campaign for trade on the

<sup>7</sup> Special Reports of the Census Office, Mines and Quarries, 1902, pp. 903-904.

<sup>8</sup> U. S. Geological Survey, Mineral Resources of the United States 1901, p. 844.

<sup>9</sup> U. S. Geological Survey, Mineral Resources of the United States 1903, p. 1035.

<sup>10</sup> U. S. Geological Survey, Mineral Resources of the United States 1904, pp. 1039-1040.

<sup>11</sup> One plant is listed as a chemical plant but it may have supplied chemicals for the manufacture of Keene's cement. Another plant may have used some gypsum for the manufacture of mineral paint.

part of the well-established companies have resulted in the suspension of many of the smaller plants not physically or financially fitted to withstand the strain. Concentration of interests has naturally followed. Many small plants, meritoriously situated, with good supplies of raw material, have been taken over through lease or purchase by firms that control groups of mills."<sup>12</sup> The multiple-plant companies in 1908, other than the United States Gypsum Corporation, were the Acme Cement Plaster Co. and the American Cement Plaster Co., each of which controlled about six enterprises in the gypsum industry. The United States Gypsum Corporation, however, continued to control about half of the domestic production. A trade association for the industry, the Gypsum Industries Association (New York), was organized in 1913.

Only 25 operators reported to the Census in 1919 for 47 enterprises and 48 mines. With regard to concentration of control the census notes that "three operators reported a majority of the enterprises, and each of these three operated in various parts of the United States. As the industry is so largely controlled by a few operators, analysis of the statistics cannot be presented in detail without disclosure of individual operations."<sup>13</sup> From the data given, however, and from the information supplied in the Mineral Yearbooks, the 3 companies already mentioned, probably reported for 24 enterprises (12, 6, and 6, respectively) which were located in the main producing areas.<sup>14</sup> The 3 large producers probably accounted for 85 percent of the total value of gypsum products. In terms of a rough estimate, the United States Gypsum Corporation produced one-half of the crude output in New York, Iowa, Michigan, Virginia, and Ohio, and one-third of the output of other Western States, or approximately 45 percent of the total domestic output. Of the 47 enterprises reported in 1919, 6 may be described as very large,<sup>15</sup> 8 as large, 15 as medium, 14 as small, and 4 as very small. The foregoing analysis is primarily in terms of domestic production of crude gypsum or calcined gypsum made from domestic crude; operators using imported gypsum are not included.

A more complete picture of the industry may be presented for the year 1925,<sup>16</sup> in which the peak domestic production of crude gypsum was recorded. Reports were received for 61 operating units of which the United States Gypsum Corporation (reorganized in 1920 under an Illinois charter) controlled 17, the Beaver Products Co. (formerly American Cement Plaster Co.) controlled 6, and the Certain-teed Products Corporation (formerly Acme Cement Plaster Co.) controlled 6. Although more units were in operation, apparently the United States Gypsum Corporation had not lost its relative position in the mining of crude gypsum as compared with operations in 1919. In the interim it had acquired important mining properties in New York, California, and Texas. It was 1 of the 5 enterprises which produced Keene's cement and probably accounted for a substantial share of the total sales. In the gypsum products field as a whole, it was the only concern which produced a full line; that is, plaster, wallboard, block, tile, and Keene's cement. In addition in 1924 it had entered

<sup>12</sup> U. S. Geological Survey, *Mineral Resources of the United States*, 1908, pt. II, p. 621.

<sup>13</sup> Fourteenth Census of the United States, 1920, vol. XI, *Mines and Quarries*, 1919, pp. 426-28.

<sup>14</sup> The census report excludes mixing plants and other incidental enterprises, as well as nonproducing enterprises.

<sup>15</sup> That is, they employed more than 100 wage earners, each, and as a group accounted for 44 percent of the total average number of wage earners.

<sup>16</sup> *Mineral Resources of the United States*, pt. II, 1925.

the importing-manufacturing segment of the industry by acquiring the old firm of J. B. King, Staten Island, N. Y. In 1925 it was one of seven import-manufacturers of gypsum. The Certain-teed Corporation produced plaster, block, tile, and Keene's cement. The Beaver Products Corporation produced plaster, wallboard, blocks, and tile. Of the 61 operating units mentioned above, 27 were one-mine or one-mine-plant units. The majority of them produced only plaster. In addition to the above domestic mining-manufacturing units and the import-manufacturers, there were about 11 companies in 1925 which purchased their raw material and specialized in the manufacture of gypsum board. The entrance of the United States Gypsum Corporation into the import-manufacturing segment of the industry which supplies the important eastern markets is the most significant development of the period under review.

The next few years were filled with varied and vital changes in the organization of the gypsum industry. Although horizontal integration continued, especially in the import-manufacturing segment, the emphasis shifted to a more comprehensive type of vertical integration. These changes were accompanied by a price-cutting phase in the earlier stage (1926-28) and by a price-maintenance phase in the later stage (1929-35). The total number of operating units in the domestic crude and calcined gypsum industry remained approximately the same, but the larger concerns acquired more units and built new ones which offset the ones that were dissolved rather than transferred.

The United States Gypsum Corporation acquired in 1926 through its new subsidiary, Canadian Gypsum Co., Ltd., an important mining property at Wentworth, Nova Scotia. In 1930 it added another important unit at Hillsborough, New Brunswick (Albert Manufacturing Co.) and later a third at Hagersville, Ontario. In the United States in 1929 it built or purchased gypsum manufacturing plants at Boston and Philadelphia which along with the one at Staten Island use imported crude (via Gypsum Packet Co., a subsidiary) from the Canadian properties. It also built new manufacturing plants at East Chicago and Detroit which receive crude shipments from the Michigan properties at Alabaster. In addition it acquired the Oakfield plant (New York) of the Niagara Gypsum Co. and the manufacturing (wall board) plant of the Reeb Corporation at Buffalo, N. Y.

Prior to 1930 this corporation produced a full line of gypsum products in nearly all important marketing areas with only a few related products, such as lime, paint, and paper.<sup>17</sup> In 1930 it acquired a more comprehensive group of related building materials, such as expanded metal (lath and sash), asphalt roofing, and fiber insulating board. Six plants were acquired in that year and 14 more were added during the following 7 years (two were located in Canada).

The Certain-teed Products Corporation, on the other hand, developed in part from a reorganization (1917) of the General Roofing Manufacturing Co. In 1923 when it acquired the Acme Cement Plaster Co., it also added two concerns manufacturing linoleum and inlaid materials. The acquisition in 1928 of the Beaver Board Co., as well as the Beaver Products Co. (successor of the American Cement Plaster Co.), added fiber board to its line of building products. The addition of the Beaver Products Co. completed for it the line of gypsum products. Although Certain-teed is not in the import-

<sup>17</sup> Paper for sacks and for use in the manufacture of gypsum board.

manufacturing branch of the gypsum industry, it is in part a combination of two former multiple-plant gypsum companies and an important domestic producer.

The National Gypsum Co., incorporated in Delaware in 1925 apparently began as a merger of four gypsum mining and manufacturing companies and several lime companies. In 1934 it acquired a metal lath plant. In the following year it substantially extended its gypsum properties by purchase of the Universal Gypsum & Lime Co. with plants in Iowa and New York. The next year an important invasion into the import-manufacturing branch of the industry occurred. Three large Canadian mining properties in Nova Scotia (Atlantic Gypsum Products Co.) and two gypsum manufacturing properties in New Hampshire and New York were acquired. The Canadian mining properties along with prior acquisitions in Canada of fiber and insulating board plants were consolidated into a Canadian subsidiary—the National Gypsum Co., Ltd. With the addition of an insulating board plant in Alabama the National presented, with the exception of Keene's cement, a full line of gypsum and related products in the important marketing centers.

During the period under review the United States Gypsum Corporation remained the largest organization in the industry, but it probably lost part of its former relative position. The above three organizations, however, probably controlled at least 75 percent of the domestic gypsum mining and manufacturing industry as well as a substantial portion (probably more than half) of the Canadian industry. Apparently, no great struggle on a price basis for markets occurred with the emergence of two important rivals for the United States Gypsum Corporation.

The official comment, for example, in 1931 substantiates the above point. The period 1926–28 “was characterized by severe price competition brought about by expansion in plant capacity and reorganization of markets. During this period the existing price structure became impaired, and the margins between prices and costs were greatly reduced if not virtually eliminated. Spurred by necessity, costs were reduced, and one by one the companies revised their prices so that by the end of 1929 they once more allowed a margin of profit. In 1930, as the amount of new building construction dropped, sales efforts were directed toward repair work, and when even this failed to check the shrinkage in volume of business, prices instead of being slashed continued their upward trend. There was no serious evidence of price cutting during 1931, although indications were that some producers intended to absorb the recent increase in freight rates on gypsum products.”<sup>18</sup> By the end of 1929, as indicated above, the three large combinations had completed their major consolidations and apparently a new price structure quickly appeared which was successfully maintained in a declining market.

The above marketing conditions persisted throughout the remainder of the period under review. Although production and sales declined drastically, prices were maintained. Accordingly, in 1932 the report was that “despite business conditions, particularly in building, the gypsum industry maintained prices on crude and calcined gypsum products in 1932, and in specific instances prices were slightly increased. The unit value of calcined gypsum products sold by pro-

<sup>18</sup> Mineral Yearbook, 1931, pt. II, p. 191; Mineral Yearbook, 1935, p. 955.



ducers advanced to \$13.74 per ton and represented an increase of \$1.67 over the previous record value reported for 1931. Trade journal quotations during 1932, however, showed little or no change over the preceding year.<sup>19</sup> At the beginning of 1935 a slight downward revision of prices was reported for the New York City area.<sup>20</sup>

Recent developments in the gypsum industry emphasize in a significant way the foregoing historical analysis of organizational trends. The United States Gypsum Corporation in 1936 acquired the well-known properties of the Jumbo Plaster & Cement Co. at Sigurd, Utah; in 1938 those of the Nephi Plaster & Manufacturing Co. at Nephi, Utah. The latter added substantially to the corporation's position in the manufacture of Keene's cement and both properties gave it probably more than two-thirds of the gypsum output in Utah.<sup>21</sup> In the import-manufacturing branch of the industry a new plant of the corporation began operation in 1939 at Jacksonville, Fla.

The National Gypsum Co. in 1938 purchased two properties, Best Bros., and Oakfield Gypsum Products Co. The plant of the latter company was immediately dismantled. The former company is one of the oldest manufacturers of Keene's cement in the United States. In the import-manufacturing branch of the industry a new plant of the company began operation in 1939 at Savannah, Ga. Although the development with regard to location of properties and products of the National Gypsum is similar to that of the United States Gypsum Corporation and would apparently offer keen price competition in many marketing areas, the market situation for several gypsum products seems to be different. The former company uses several patented processes which are covered by license contracts which contain price-control provisions, that is, provisions not to sell below a minimum fixed by the licensor. Two of the most important patents expire in January 1947 and in October 1952. A number of such license agreements are contracted with the United States Gypsum Corporation.<sup>22</sup> The manufacture of gypsum wallboard, an important building product, is probably included in the above agreements. Nearly all manufacturers of gypsum building products probably have similar agreements with the United States Gypsum Corporation. Celotex will manufacture gypsum wallboard and plasterboard under United States Gypsum Corporation's patent-license arrangements.

The Certain-teed Products Corporation is now apparently controlled by the Celotex Corporation, the largest manufacturer of structural insulation and acoustical material in the world.<sup>23</sup> The latter acquired 109,360 common shares and 9,496 preferred shares of the former in 1937, partly by an exchange of stock and partly on a cash basis. In 1939 it added 43,744 more shares of Certain-teed's common stock (a total of 23 percent of the outstanding common). Celotex had already acquired in 1937 a controlling interest in the American Gypsum Co., Port Clinton, Ohio, and the entire capital stock of the Gulf Gypsum Co., at Falfurias, Tex. In 1938 Celotex made a 15-year agreement with Certain-teed to use its excess plant capacity for the manufacture of roofing material, paper board, and gypsum products which would be sold under the Celotex label. Certain-teed has reciprocal rights in

<sup>19</sup> U. S. Bureau of Mines, *Minerals Yearbook*, 1932-33, p. 618.

<sup>20</sup> U. S. Bureau of Mines, *Minerals Yearbook*, 1935, p. 955.

<sup>21</sup> A third company more recently developed than the other two operates in the State.

<sup>22</sup> Standard Statistics.

<sup>23</sup> Standard Statistics.

certain Celotex plants. In 1939 Celotex contracted to make for Certain-teed a line of insulation board products which would replace another manufacturer's line which Certain-teed formerly sold. Although the combination of Celotex and Certain-teed provides a strong potential competitor in the gypsum and related products industry, the actual influence with regard to prices is somewhat uncertain. Since the combination is not in the import-manufacturing segment of the gypsum industry and not extensively engaged in the manufacture of Keene's cement, any substantial price-competition influence is likely to be exerted in restricted marketing areas with regard to plaster, plasterboard, fiberboard (all areas), roofing material (all areas), and structural insulation products (all areas). Apparently the combination is not a producer of expanded metal products. Gypsum wallboard is not mentioned because its status with regard to patented processes and substitutes probably excludes it from the influences of a highly competitive market.

No satisfactory analysis of the price situation at the present time can be made with the available data. Costs are known to differ substantially in the mining branch of the gypsum industry, especially in different localities, but adequate data are not available. The remainder of this section of the report on gypsum, therefore, is confined to a few comments on price policy, that is, multiple basing points, substitutes, and available recent price trends, and on the probable position of the three largest producers in the present structure of the gypsum industry.

The policy of basing freight charges on certain production centers is apparently widespread, if not universal, in the gypsum products industry. An informal understanding seems to prevail that large milling centers are to be used as basing points and that within a given marketing area delivered prices are to be kept relatively uniform regardless of the actual transportation cost incurred on shipments by mills outside the given basing-point area. The establishment of the import-manufacturing gypsum plants at Jacksonville and Savannah raises an important price problem with regard to basing points. There are no workable gypsum deposits in the Southeastern States, and formerly this district has been supplied on the basis of freight charges from Plasterco, Va., the nearest mill, to such points as Atlanta, Savannah, Montgomery, etc. There is a small production of synthetic gypsum at Tampa, Fla., and this supply may be augmented by Canadian imports. The decision with regard to a basing point for this area is extremely important. Trucking, of course, plays an important role in delivering gypsum products from mills to dealers. The relationship between this type of transportation cost and delivered prices within different basing-point areas is not known. No information, moreover, is available with regard to the degree of observance in individual sales of the multiple basing-point system. Many possibilities exist for nominal observance and partial disregard.

The situation with regard to substitutes for wallboard and plasterboard is significant for an interpretation of the price behavior of gypsum products. There is a noticeable and roughly maintained difference between the average sales value of wallboard and plasterboard which usually amounts to \$8 or \$10. The former is the more expensive, partly because it contains as a group some very elaborately fin-



ished wallboard, whereas the latter is a more uniform product; partly because more expensive paper is used for finishing wallboard; and partly because waste and spoilage is more frequent in the manufacture of wallboard since it is made in wider sections and the outer surface must be free of imperfections or blemishes. Although the sum of these cost differentials may account for one-fourth of the usual spread between the average sales values of the two products, the remainder must be attributed to the existence of close substitutes for plasterboard. One ton of gypsum plaster will cover about 170 square yards on wood lath, or 200 square yards on plasterboard. Since 90 million square yards of plasterboard were sold in the United States in 1938, approximately 450,000 short tons of plaster (about 40 percent of the total sold in the United States) were applied to plasterboard walls. The consumption of wood lath in 1938 is estimated at about 1,000,000,000. Since 16 or 17 wood lath are required per square yard of plaster, approximately 405,000 tons of plaster were applied to wood lath. The price of plasterboard, therefore, must be maintained at a rather definite relation to the price of wood lath in order to hold or to extend its sales. For certain uses, moreover, which formerly required metal lath according to the fire underwriters' specifications, plasterboard may now be used. The retention or extension of this market likewise depends largely on a close price ratio. Common wallboard, on the other hand, is not confronted with any close substitutes. At peak retail prices of \$38 per thousand square feet (1935) its cost installed was only about one-half the cost of a lath-and-plaster job. Fiberboards which sell for \$45 or \$50 are a closer substitute, but wallboard has the advantage over most of them in being more fireproof.

The above points with regard to price behavior of gypsum products are indicated more clearly in the following table in which average unit mill values (f. o. b.) and prices paid by the U. S. Government in the District of Columbia are given for selected products in recent years. Since the prices paid by the Government may be on a preferred basis and are inclusive of transportation costs and dealers' costs, they are not significant for a direct comparison with average unit mill values. Both series are given to indicate price changes from year to year.<sup>24</sup> Three points may be observed with regard to table 20; first, on the basis of unit mill values the depression and recent organizational changes in the industry had little effect on the prices of plaster; second, the unit values for plasterboard indicate for the last 2 years price changes which probably reflect organizational changes and the existence of close substitutes; and third, the prices paid by the United States Government for common wallboard indicate the amenability of the product to control—its price did not drop below the 1930 level until 1938 and substantial upward variations occurred in the interim. With regard to the recent price decline of plasterboard, the reaction of sales is significant. The official report notes that "the square footage of gypsum-lath sales rose to a new record during 1938, increasing 10 percent over 1937".<sup>25</sup> The sales of other gypsum products declined slightly in 1938 as compared with 1937.

<sup>24</sup> Trade journal quotations appear to be routine and nominal. The new price series of the Bureau of Labor Statistics seems inadequate since reports for plaster are from 1 of about 30 producers and for wallboard from one producer and on one specification—there are many varieties. The latter is also a delivered price.

<sup>25</sup> U. S. Department of the Interior, Bureau of Mines, Minerals Yearbook, 1939, p. 1183.

TABLE 20.—*Gypsum building products; average unit values, f. o. b., and delivered prices to U. S. Government in District of Columbia, 1930-38*

Year	Wall plaster		¾-inch plasterboard		¾-inch common wallboard	All wall-board <sup>1</sup>
	Price to U. S. Gov. ernment in District of Columbia	Unit values f. o. b.	Price to U. S. Gov. ernment in District of Columbia	Unit values f. o. b.	Price to U. S. Gov. ernment in District of Columbia	Unit values f. o. b.
	Per short ton		Per 1,000 square feet			
1930.....	\$13.00	\$7.40	\$20.00	\$16.46	\$30.00	\$24.74
1931.....	12.00	7.99	21.00	14.47	34.00	24.91
1932.....	16.00	8.46	21.00	15.23	32.00	28.11
1933.....	12.00	8.79	21.00	14.75	34.00	25.89
1934.....	12.40	9.55	20.50	14.41	32.00	26.56
1935.....	18.00	9.86	25.00	15.02	38.50	26.14
1936.....	16.40	9.27	21.00	15.36	32.69	23.92
1937.....	12.70	9.02	19.00	13.00	33.50	21.67
1938.....	11.98	8.95	17.30	12.71	27.40	21.31

<sup>1</sup> Unit values for all wallboard include a wide range of types and prices.

Source: U. S. Bureau of Mines and Procurement Division of the Treasury, class 59 of the supply schedule.

A rough cross section of the organizational structure of the gypsum industry in 1938 may be presented briefly. There were 56 active gypsum mining units in the United States in that year. Of these units the United States Gypsum Corporation probably controlled 20, the National Gypsum Co. 8, and the combination of Certain-teed and Celotex 7. Since there were a few other multiple-plant companies (mainly Portland cement companies), there were probably only 10 or 12 independent 1-plant producers. In terms of a rough estimate the United States Gypsum Corporation mined about 45 percent of the total output; all 3 of the above combinations about 80 percent. The United States Gypsum Corporation had 1 or more units in 8 of the 9 main producing States. In the other 7 States it had at least 1 unit in 5 of them. The National Gypsum Co. had a State distribution of less than half that of the United States Gypsum Corporation.

In the same year there were 54 active calcining plants, of which 42 used domestically mined crude, 11 imported crude, and 2 byproduct crude (1 abandoned in latter part of the year). In this stage of gypsum manufacturing the United States Gypsum Corporation probably has about the same, if not greater, percentage of the output as in the domestic mining of crude gypsum. About the same percentage of output seems to prevail for plaster; it is probably greater for Keene's cement. In the manufacture of wallboard and plasterboard the 3 largest producers mentioned above probably supply 80 percent of the output. There are several manufacturers of board who buy calcined gypsum as their raw material. Because of the advantageous patent position of the United States Gypsum Corporation, it probably dominates the board manufacturing branch of the gypsum industry. The development, however, of the Celotex and Certain-teed combination may alter its position in the near future.

## 5. MONOPOLY AND TARIFF PROTECTION: AN EVALUATION OF EXISTING CONDITIONS, SUGGESTED CHANGES, AND THEIR PROBABLE EFFECTS

The domestic gypsum industry expanded rapidly after 1898, partly because of a new demand for its products, and partly because of the peak of restriction on imports which was reached in the Tariff Act of 1897. This phase of the industry's development was accompanied by a sharp increase in industrial concentration. During the following decades the industry increased its output and varied its products. Duties on imports were partially lowered, but industrial concentration remained about the same. Although the duties on gypsum products are no longer as significant as in the early days of the industry's development, they probably facilitate monopolistic practices.

The duties on gypsum and gypsum products in the Tariff Act of 1913 were primarily duties for revenue. The duty of 10 percent ad valorem which applied to crude and, with one exception, to finished products provided, if any, only incidental protection. The duty of 25 percent ad valorem on one class of gypsum products, chiefly building materials, probably provided moderate protection for the most important and rapidly developing section of the industry. The change in duties in 1922 and their continuation in the act of 1930 were definitely of a protective nature. Crude gypsum was made free of duty in order to promote domestic manufacturing and all duties on manufactured products were increased.

The free entry of crude gypsum is important especially for the large consuming areas along the Atlantic seaboard. Its free status must be credited largely to the influence of the producers in the import-manufacturing segment of the industry. Since the duty-free status was bound in the Canadian trade agreements, the issue, at least for a time, is settled.

Although the present duty of \$1.40 per ton on ground or calcined gypsum is only slightly higher than the former duty, it excludes, at least potentially, substantial imports. The Gypsum Association opposed any concession on this item in the trade agreement with the United Kingdom. In the argument against concessions several factors were stressed, such as the efficiency of the British industry, the existence of undeveloped gypsum deposits in Newfoundland, and the proximity of Canadian producers to large domestic consuming centers. "It is impossible," the association emphasized, "to overstate the potential danger to the domestic industry from imports of ground and calcined gypsum from Canada." Even small imports were objected to because they seemed to be a "source of injury to the domestic industry far out of proportion to the quantity of domestic production displaced by the foreign product." Apparently the present duty assists the domestic industry to maintain prices and preserves the existing import-manufacturing segment of the industry. Without tariff protection the American-Canadian companies, as well as others, would in time substantially increase their shipments of ground and calcined gypsum to the United States. Without tariff protection a few additional independent suppliers would be able to participate in the domestic market. Domestic competition would probably become

more effective on a price basis and a considerable saving in transport costs would be achieved. The duty on ground and calcined gypsum was bound at the present rate in the trade agreement with the United Kingdom.

The duty of 35 percent ad valorem on gypsum products, chiefly building materials, probably excludes moderate amounts of imports of the more common types from the seaboard markets. Because of the efficiency, improvements, and patents of the domestic industry, the elimination of the duty would probably not increase greatly the amount of imports but the increase might have a very beneficial effect on the prices of these products in the seaboard markets.

The duties on gypsum cements, which are equivalent to about 30 percent ad valorem, represent the greatest duty increase for gypsum products in the act of 1922 as compared with the act of 1913. The increase is definitely of a protective nature and probably excludes substantial amounts of imports. The control of domestic production is highly concentrated and without tariff protection competitive conditions would be improved especially in the seaboard markets.

In view of the monopolistic nature of the gypsum industry, its efficiency of production, the possible saving in transport costs, and the probable lowering of prices, the duties on gypsum products should be greatly reduced or eliminated. At the present time the domestic industry has excess plant capacity, but that condition is usually associated with monopolistic practice. Increased competition and lower prices would probably bring into use some present excess capacity and would eliminate some excess capacity which is not efficiently operated or advantageously located.

## CHAPTER IV

### THE FLAT-GLASS INDUSTRY

#### 1. MAJOR FLAT-GLASS PRODUCTS

There are five major products in the flat-glass industry; namely, cylinder, crown, and sheet glass; plate glass; rolled and figured glass; wire glass; and structural glass. Other related glass products, usually flat in form, are safety glass (the most important), mirrors (silvered glass), stained and painted glass windows, and flat glass further manufactured by processes such as bending, beveling, coloring, engraving, etching, and ornamenting.<sup>1</sup> The largest single use for flat glass is in the construction of buildings.

"Cylinder, crown, and sheet glass" is a tariff term which refers to different methods of manufacture. Since the sheet-drawing method is now used almost exclusively, this product is usually referred to as "sheet glass." Its chief use is for window glass. Although it has a smooth and glossy finish (fire polish), it differs from plate glass principally because of its unground and unpolished surfaces.

Plate glass is a perfectly flat transparent glass with ground and polished surfaces. It is practically free from structural defects and shows no distortion of vision when objects are viewed through it at various angles. Its chief uses are in automobiles, buildings, show-cases, etc. Safety glass is laminated plate glass (sometimes sheet glass); that is, two pieces of flat glass bound together with a layer of plastic material between them; or plate glass subjected to a special surface-hardening process which imparts a high degree of strength and flexibility and prevents it from breaking into sharp splinters when shattered. Wire glass is also one type of safety glass.

Rolled glass differs from plate glass (also produced by rolling) because its surfaces are not ground and polished and because one surface usually has a fluted, ribbed, or figured design which renders it nontransparent, but does not destroy entirely its light-transmitting properties. Rolled glass is used largely for factory windows, skylights, office partitions, etc.

Wire glass is ordinary rolled or plate glass which has embodied in it a wire mesh or netting. The wire prevents it from being easily shattered and it is used where there is danger of fire or shock, such as railway stations, elevator enclosures, power plants, and warehouses.

Structural glass (or obscured glass) is flat glass in heavy, opaque sheets. Since it is produced in many colors, it is used frequently as a substitute for marble, tile, porcelain, and other decorative and sanitary materials. Glass blocks, bricks, and tiles are substitutes for similar ceramic products.

The total value of flat glass, not including related products, produced in the United States in 1937 as reported by the census was \$100,938,-

<sup>1</sup> U. S. Tariff Commission, *Flat Glass and Related Glass Products, 1937*, p. 277. This report contains an excellent detailed description of the domestic industry, statistics of production and international trade, tariff history, etc. Most of the data in the present study are drawn from it.



681. Plate glass was the most important item and sheet glass (window glass) ranked next in importance. These two products probably accounted for 80 percent of the total value. In this report the subsequent analysis will be confined primarily to the above major flat-glass products and the main emphasis will be given to plate and sheet glass.

## 2. TARIFF HISTORY

Flat glass imported into the United States has been subject to duty since the passage of the first tariff act in 1789. In the act of 1913 all duties were reduced substantially (approximately 50 percent) below the level which had prevailed during the prior 30 years. The weighted average equivalent ad valorem for the 30-year period ranged between 50 and 68 percent.<sup>2</sup> In the act of 1922 the duties were increased almost to the old level, and by Presidential proclamations under the flexible provisions of this act rates were further increased on several important products. The flat glass industry has been the recipient of very substantial and prolonged tariff protection.

Plate glass is subject to duty on the basis of size. A comparison of duty changes since 1913 is presented in table 21. The act of 1930 reduced the duties to about the 1922 level, increased the duty-brackets from three to four, and added a minimum ad valorem duty of 50 percent for the high-priced, thick types of glass on which the specific duties might be equivalent to a low ad valorem rate.<sup>3</sup> The higher specific duties on the large sizes and more expensive plates are designed to maintain more uniform equivalent ad valorem rates. The ad valorem equivalent for all imports in the period 1930-34 was approximately 94 percent.

TABLE 21.—Plate glass: Comparison of tariff duties, 1913-30

(Cents per square foot)

Plate glass	Belgian agreement effective May 1, 1935 <sup>1</sup>	Act of 1930 par. 222 (a) <sup>1</sup>	Presidential proclamation effective Feb. 16, 1929	Act of 1922	Act of 1913
Not exceeding 384 square inches	8.3	12½	16	12½	6
Above 384 and not exceeding 720 square inches	11.3	17	19	15	8
Above 720 and not exceeding 1,008 square inches	11.7	17½	22	17½	12
Above 1,008 square inches	13.2	19¾			

<sup>1</sup> Glass measuring ½ inch or more in thickness subject to a minimum rate of 50 percent ad valorem.

The Presidential proclamation which increased the duties on plate glass in 1929 followed a cost investigation by the Tariff Commission (act of 1922, sec. 315).<sup>4</sup> On the basis of the Commission's report to the President, which presented weighted average unit costs of production (f. o. b. plants) in the United States and in Belgium for the 3 years 1923-25 on standard grades of plate glass produced by the casting process, the duties were increased as indicated above in order to equalize delivered costs of domestic and foreign glass in 14 important

<sup>2</sup> U. S. Tariff Commission, Flat Glass, etc., p. 5.

<sup>3</sup> When plate glass is bent, frosted, sanded, etc. (par. 224), it is subject to an additional ad valorem rate of 5 percent.

<sup>4</sup> U. S. Tariff Commission, Flat Glass, etc., pp. 103-107.



domestic markets. In order to obtain delivered costs Belgian costs were converted into dollar costs for each year at the average rate of exchange for the Belgian franc and average transportation costs were included. The equivalent ad valorem rate of the specific duties in 1928 was 79.8 percent, in 1929 the increased duties had an equivalent ad valorem rate of 106.3 percent.

A second investigation of costs (Tariff Act of 1930, sec. 336) was made in 1932 for the 3-year period 1929-31. It showed that the more complete transition to modern manufacturing methods in the United States had narrowed the spread between American and Belgian costs for the production of plate glass, and that in order to equalize such costs the existing duty should be reduced by the statutory maximum of 50 percent. The report was returned by the President to the Commission late in 1933 with the request that changes subsequent to the 3-year period, which might alter the conclusions of the report, should be considered. A supplemental investigation was made, but it did not disclose any data which would alter substantially the findings of the prior investigation.

No change was made in the duties on plate glass until 1935. In the Belgian trade agreement, effective May 1, 1935, the duties for plate glass were reduced by about 33½ percent. The equivalent ad valorem rate for the specific duties was 78 percent in 1934, 44 percent in 1935, 55 percent in 1936, 40 percent in 1937, and 63 percent in 1938.

Sheet glass is also dutiable according to surface area, but for each tariff bracket the duty is per pound. In the act of 1913 the duties ranged from ⅞ to 2 cents per pound for six tariff brackets based on surface area. The equivalent ad valorem rate for 1920 was 10 percent. In the act of 1922 the duties were increased and one more tariff bracket added. The duties ranged from 1¼ to 2½ cents per pound; the equivalent ad valorem of these rates for 1923-28 varied between 27 and 46 percent. By Presidential proclamation, effective June 13, 1929, the duties were increased 50 percent.<sup>5</sup> The act of 1930 retained these rates and provided a minimum ad valorem rate of 50 percent for glass weighing less than 16 ounces but not less than 12 ounces per square foot. The average equivalent ad valorem of the specific duties for the period June 13, 1929, to January 1, 1932, was approximately 67 percent. On the latter date, by Presidential proclamation, the duties were reduced 25 percent. For the period 1932-37 the average equivalent ad valorem rate ranged between 46 and 66 percent. During the lifetime of the Czechoslovak trade agreement (April 16, 1938, to April 22, 1939) the duties were reduced approximately 30 percent. Since the suspension of the above agreement the duties fixed by the Presidential proclamation in 1932 prevail.<sup>6</sup>

<sup>5</sup> U. S. Tariff Commission, *Flat Glass, etc.*, p. 63. Four investigations of the costs of production of window glass have been made.

<sup>6</sup> Sheet glass (par. 219).

	<i>Duty, cents per pound</i>
Not over 15 square inches.....	129½¢
Above 150 and not over 384 square inches.....	135½¢
Above 384 and not over 720 square inches.....	153½¢
Above 720 and not over 864 square inches.....	163½¢
Above 864 and not over 1,200 square inches.....	214
Above 1,200 and not over 2,400 square inches.....	234½¢
Above 2,400 square inches.....	253½¢

A minimum rate of 37½ percent ad valorem is provided for sheet glass weighing less than 16 ounces, but not less than 12 ounces. When sheet glass is bent, frosted, sanded, etc. (par. 224), it is subject to an additional ad valorem rate of 5 percent.

Rough rolled and figured glass, with or without embodied wire netting, is dutiable (act of 1930, par. 221) at  $1\frac{1}{2}$  cents per pound. The average equivalent ad valorem rate for the 5-year period 1931-35 was 32 percent. The duties in the acts of 1913 and 1922 were bracketed according to surface area and were in terms of cents per square foot. Their average in equivalent ad valorem terms was below 30 percent.

Polished wire glass (plate glass with embodied wire netting) was dutiable at the same rates as plate glass in the act of 1913 (table 1, above). In the act of 1922 the rates were slightly higher than those for plate glass, namely, 15,  $17\frac{1}{2}$ , and 20 cents per square foot; in the act of 1930 they were also slightly higher, 15, 20, and 23 cents per square foot. The average ad valorem equivalent for 1923-29 ranged between 34 and 108 percent. Since 1929, although the duties were reduced  $33\frac{1}{3}$  percent in the Belgian trade agreement (effective May 1, 1935), imports have been negligible.

Structural glass (or obscured glass) measuring one-fourth of an inch or more in thickness is dutiable in the Tariff Act of 1930 (par. 222 (d)) at the same rates as plate glass (table 1, above). In the Belgian trade agreement (1935) the specific rates of duty were reduced about  $33\frac{1}{3}$  percent in accordance with the reduction on plate glass and wire glass. If less than one-fourth of an inch in thickness, structural glass is dutiable at rates which vary according to the method of manufacture. When rolled, the rates for rolled glass apply (par. 221); when produced by any other method, the rates for sheet glass apply (par. 219). An additional rate of 5 percent is imposed when the glass is colored, regardless of the method of manufacture. The ad valorem equivalents of the duties on all imports of structural glass were 51 percent in 1931, 57 percent in 1933, 62 percent in 1936, 46 percent in 1937, and 31 percent in 1938.<sup>7</sup>

Laminated glass (safety glass) was not specifically provided for in the tariff prior to 1930. In the act of 1930 it was made dutiable at 60 percent ad valorem (par. 220). In the Belgian trade agreement (1935) the rate was reduced to 45 percent.

Some of the raw materials used in the glass industry are subject to duty, but the duties were never significant with regard to the cost of making glass and in recent years a few of them were reduced. The main raw materials used in the manufacture of flat-glass products are silica sand, soda ash, lime, salt cake, and cullet, or broken glass. Of the total cost of production, fuel is the largest single item of expense next to labor; cost of raw materials represents only 10 to 15 percent of the total. Supply of fuel and, to a lesser extent, silica sand have been important factors in the localization of the flat-glass industry. In localities where the cost of natural gas is prohibitive, flat-glass plants use producer or coke-oven gas, or oil. With the possible exception of a few coloring agents, all raw materials are available in the United States in abundance.

Silica sand of varying purity and quantity is found in many States, but the most important and best developed deposits of glass sand in the United States are located in Illinois, West Virginia, and Pennsyl-

<sup>7</sup> In the tariff acts of 1922 and 1930 glass tiles were dutiable at 40 percent ad valorem. In the Belgian agreement the duty was reduced to 30 percent. Glass tiles are usually made by cutting large sheets of obscured glass as the demand warrants. Statistics for domestic production and exports are not available. Imports, chiefly from Belgium, are small as compared with estimates of domestic production.

vania. These States produce from 60 to 70 percent of the total domestic output. Belgium and France have some of the finest glass sand deposits in the world. Small quantities of glass sand (about 2 percent of domestic consumption) are imported annually, principally by Pacific-coast producers, from Belgium, but very little, if any, is used in the manufacture of flat glass. The duty on imported glass sand was reduced 50 percent in the Belgian trade agreement.

Soda ash in terms of value is the most important raw material in the manufacture of glass. Although it is found in a natural state, the kind generally used by glass producers is the artificial product made by a number of the large domestic chemical plants. Soda ash is dutiable in the Tariff Act of 1930 (par. 81) at  $\frac{1}{4}$  cent per pound. Very little, if any, imported soda ash is used in the domestic flat glass industry. Salt cake, also supplied by the domestic chemical industry, is free of duty.

Limestone is found in nearly all sections of the United States. It is used more generally than lime in the manufacture of glass. In recent years dolomite limestone (containing magnesia) has been used extensively, especially in the sheet-drawing process of manufacture. In the Tariff Act of 1930 (par. 203) limestone not suitable for use as monumental or building stone, crude or crushed but not pulverized, is dutiable at 5 cents per 100 pounds. Since January 1, 1936 (first Canadian trade agreement), the duty on limestone is  $2\frac{1}{2}$  cents and on lime 7 cents per 100 pounds (5 cents in second Canadian agreement, 1938).

### 3. DOMESTIC PRODUCTION, IMPORTS, AND EXPORTS

The total production in 1900 of all flat-glass products was valued at \$17,000,000. Over 63 percent of the total consisted of window glass; 30 percent of plate glass; and the remainder of rolled, cathedral, wire, and opalescent glass. From 1880 to 1900 domestic production had increased almost 200 percent in value. Imports of flat glass in 1880 were about 40 percent of domestic production; in 1900 they were less than 15 percent.

Important changes occurred in the industry during the World War period. Domestic production in 1914 was valued at \$37,000,000; in 1919 at \$84,000,000. The increase was largely due to curtailment of production abroad, expansion of the automobile and building industries, and improvements in manufacturing processes. American exports increased greatly. The peak of domestic production was reached in 1923 when the total value of flat-glass products amounted to \$122,000,000. Imports were valued at almost \$19,000,000; prior to 1923 they had never exceeded \$5,000,000 a year. Although quantitative increases were large, part of the value change was the result of higher prices in 1923 as compared with prior years.

All branches of the industry by 1930 had become almost completely mechanized. In the interim (1924-26) domestic production declined, but the drastic decline occurred during the depression years 1930-33. Imports declined relatively more; the ratio of imports to domestic production dropped from about 10 percent in 1925 to less than 2 percent in 1933. Exports, which were formerly less than imports, exceeded imports in 1932 and have increased steadily since that year. In 1933 domestic production of flat-glass products were valued at \$37,000,000; imports at \$489,000; and exports at \$1,324,000. Since

1933 domestic production, imports, and exports of flat glass, have increased. The value of domestic production in 1937 was \$101,000,000; of imports, \$3,026,000; and of exports, \$1,453,000. The domestic industry is largely centered around Pittsburgh.

The plate-glass industry prior to 1922 developed steadily, but domestic production had never exceeded 70,000,000 square feet annually. In response to an increase in demand, largely in the automobile industry, as well as improved processes of manufacture, production attained a predepression peak of 149,000,000 square feet in 1929. In that year domestic production of plate glass exceeded the combined output of all other countries. In 1932 domestic production declined 63 percent as compared with 1929; it increased thereafter and reached a record high of 198,000,000 square feet in 1936. Output in 1937 declined slightly to 192,000,000 square feet which was valued at approximately \$45,000,000.

Imports of plate glass have always been small compared with domestic production, and in recent years have been negligible. Imports in 1914 and 1921 amounted to 2,820,000 and 3,025,000 square feet, respectively. Although the duty was increased in 1922, imports reached their highest point of 25,919,000 square feet in 1923. Over 80 percent of the imports of flat glass in that year consisted of plate glass. Because of high prices, however, the average equivalent ad valorem rate of the specific duties was only 26 percent. By 1928 the rate had increased to 79 percent because of the reduction in prices and imports had declined to 15,665,000 square feet. Thereafter the decline continued until 1935 when only 58,782 square feet of plate glass was imported. For the 3 years 1936-38 (Belgian trade agreement duties), imports amounted to 359,000; 2,060,800; and 484,000 square feet, respectively, which represented less than 1 percent of domestic production for the same period. The average equivalent ad valorem rates for the above years were 55, 40, and 63 percent, respectively. Belgium is the chief supplier of imported plate glass and New York City is the largest market for imports. In recent years imports consist mainly of sizes one-quarter of an inch thick and over 5 square feet in area; that is, plate glass used mainly in the construction industry. Over 70 percent of the plate glass produced in the United States is used in the manufacture of automobiles.

Since 1931 exports have exceeded imports. During the years 1932-38 they ranged from  $2\frac{1}{2}$  to  $5\frac{1}{4}$  million square feet. In recent years Canada has been the chief market for exports; its purchases have averaged from one-third to one-half of all exports. Canada imports more plate glass from the United States than from Belgium or the United Kingdom, although the latter is accorded preferential tariff treatment in the Canadian market. In the second trade agreement with Canada, the 20 percent ad valorem duty on plate glass, not exceeding 7 square feet, was bound in the Canadian tariff as a concession item for the United States. Imports from the United Kingdom enter Canada free of duty.

The window glass industry in 1900 used only the hand-cylinder process of manufacture. During the next 15 years it shifted predominantly to the machine-cylinder process which in turn was replaced completely by the sheet-drawing process in recent years. During the period 1900-35 the industry more than doubled its capacity and the number of operating plants were reduced from 100 to 13.



Domestic production increased steadily, except for the World War period, and reached a peak in 1925 of 737,000,000 pounds. In 1932, the depression-low, output dropped over 70 percent as compared with 1925. Production increased irregularly during the next few years and a new record of over 800,000,000 pounds was made in 1937, valued at \$31,000,000.

Imports of window glass prior to 1900 represented about 20 percent of domestic consumption. During the next 14 years they dropped to about 8 percent of domestic consumption. In 1921 imports amounted to 47,000,000 pounds, or about 12 percent of domestic consumption. A peak of 83,000,000 pounds was recorded in 1927, but the percentage of imports to domestic consumption remained the same. The depression low for imports occurred in 1934 when only 2,404,000 pounds were imported. In 1937 imports totaled 46,055,000 pounds (about 5 percent of domestic consumption) which was valued at \$1,238,000. Prior to 1930 Belgium was the chief supplier of imports; thereafter, until its dissolution, Czechoslovakia. Since 1937 Belgium has been the chief supplier of imports.

Exports of window glass prior to the World War were quite small (about \$100,000 annually). They increased during the war period and reached a peak of \$6,493,000 in 1919 or about 13 percent of the value of domestic production in that year. For a number of years exports of window glass were not reported separately. In 1937 exports totaled 445,000 pounds, valued at \$52,776. Exports in all years were less than imports. The United States is not an important supplier of window glass in nearby markets, such as Canada and Mexico, which receive the larger part of their imports from European countries.

Rolled glass (rough, figured, and rough rolled with wire netting) is not reported separately in census statistics of production. The Tariff Commission, however, on the basis of reports from principal producers estimates that output in 1936 amounted to 31,000,000 square feet, valued at approximately 2.8 million dollars; in 1937 output totaled 39,000,000 square feet valued at about 3.5 million dollars. In recent years (1931-38) imports have ranged from approximately 140,000 to 500,000 square feet. Belgium and the United Kingdom are the chief suppliers of imports. No concession, however, was made on rolled glass in trade agreements with the above countries. Exports are not separately recorded, but they are probably about equal to imports in terms of quantity.

Polished wire glass is produced in the United States by the manufacturers of rolled glass products, and it represents only a small part of their output of flat glass. In recent years (1931-38) output has ranged from 1,000,000 to 1,700,000 square feet with a value range from \$360,000 to \$750,000. Belgium has been the principal source of imports. Although the duty was reduced in the Belgian trade agreement, imports for the above period have been nil or negligible. Exports are not separately reported, but they are known to be small.

Structural glass is not reported separately in the census. On the basis of reports to the Tariff Commission output declined from about 5,000,000 square feet in 1929 to 1,000,000 square feet in 1935, and then increased to about 4,000,000 square feet in 1937. Belgium is the principal source of imports and the duty was reduced in the Belgian agreement. Imports, however, have been negligible in recent



years (1931-38) as compared with domestic production; they have ranged from 4,700 to 131,000 square feet. Exports of structural glass are not separately reported.

Laminated glass, except for 2 years, is not reported separately in the census. On the basis of reports to the Tariff Commission domestic production increased from \$9,000,000 in 1931 to \$76,500,000 in 1937. Imports during the same period ranged from \$180 to \$606,000. Germany, Belgium, and the United Kingdom are the principal sources of imports. Although the duty was reduced in the Belgian agreement, imports have increased only moderately and most of the increase is accounted for by Germany which is not granted the reduced rate. Exports, not reported separately until 1937, are negligible; they totaled \$87,161 in 1937.

#### 4. TRENDS IN CONCENTRATION

There were 124 flat glass establishments in the United States in 1900.<sup>8</sup> Of this number 100 produced window glass; 13 produced plate glass (of which 9 also made skylight glass); and 11 produced rough, rolled, or ribbed glass, cathedral, wire, or skylight glass, or glass tiling. The Pittsburgh Plate Glass Co., a consolidation of eight companies in 1895, owned 10 of the 13 plate glass establishments reported in 1900. It produced about 83 percent of the total output of plate glass. The American Window Glass Co., a consolidation of 20 establishments in 1899, or about 85 percent of the industry,<sup>9</sup> owned 39 of the 100 window glass establishments in 1900.

In 1936 there were 35 companies and 58 plants in the United States either manufacturing, or equipped to manufacture, major flat-glass products. Seven of the fifty-eight plants were idle. Of the 51 active plants the Pittsburgh Plate Glass Co. owned 6; 3 plants produced sheet glass, 2 produced plate and laminated glass, and 1 plant produced plate, structural, and tile glass. The Libby-Owens-Ford Glass Co. owned 6 active plants; 2 plants produced sheet glass, 2 produced plate and laminated glass, 1 produced only plate glass, and 1 produced structural and tile glass. The American Window Glass Co. owned 4 active plants which produced sheet glass; 1 also produced laminated glass. The Fourco Glass Co. owned 4 sheet glass plants, but 3 were idle in 1936. In addition it acted in 1936 as sales agent for 4 one-plant companies. The Mississippi Glass Co. owned 5 of the active plants and these specialized mainly in the production of rolled and wire glass. Two other companies owned 2 plants each; the remaining 28 companies were 1-plant establishments.

During the period 1900-1936 the Pittsburgh Plate Glass Co. acquired many additional properties which gave it an important position in the flat-glass industry. It owns one glass plant in Belgium and maintains jobbing and distributing outlets in over 70 of the principal cities of the United States. In addition it added many properties which produce related products, such as chemicals, paint, varnish, and linseed oil.

The Libby-Owens Sheet Glass Co. began in 1916 as a consolidation of six plants. In 1930 it became the Libby-Owens-Ford Glass Co. with the acquisition of the Edward Ford Plate Glass Co., and it expanded rapidly thereafter in the plate glass industry. This development was

<sup>8</sup> Twelfth Census of the U. S., vol. IX. Manufactures, pt. III. pp. 962-967

<sup>9</sup> Poor's Manual of Industrials, 1907, p. 1912.

facilitated by the entrance and withdrawal in the early twenties of automobile companies in the glass industry. Several companies (the Fisher Body Corporation, Durant, and the Ford Motor Co.) purchased glass plants, but later, with the exception of the Ford Motor Co., withdrew from the glass industry when satisfactory arrangements were made for supplies with the plate glass companies. Libby-Owens acquired some of the plants formerly owned by the automobile companies. In 1932 Libby-Owens-Ford made a cross license agreement with the Pittsburgh Plate Glass Co. with regard to the manufacture of safety glass.

Plate glass is produced in the United States by four companies. Since 1900 the Pittsburgh Plate Glass Co. has accounted on the average for about 50 percent of the domestic output. This company and Libby-Owens-Ford produce about 90 percent of the plate glass which is sold. Although the Ford Motor Co. makes substantial quantities of plate glass, it is used exclusively within the Ford automobile plants. The two large plate-glass companies through close contractual relations with the large automobile manufacturers are in a favorable position to control the automobile market for plate glass. The financial affiliations of these companies with certain large chemical companies enables them to obtain most of their raw materials at relatively low costs. Each company also has affiliations with European flat-glass companies, either through licensing agreements (exclusive use of patented processes), or by direct ownership.

Wholesale prices as quoted by leading domestic manufacturers for representative types of plate glass over a period of years are given in table 22. There were no significant price changes during the years 1937 and 1938. Three trends in the wholesale prices for plate glass may be briefly noted. First, the spread in prices between the small and large sizes has diminished in recent years because of the growing demand for the smaller sizes in the automobile industry. Formerly the smaller sizes were a kind of byproduct since they were cut from broken and defective sheets. Second, the tremendous increase in demand for plate glass in the early twenties, principally from the building and automobile industries, which culminated in peak prices in 1923 was met rather promptly by an increase in plant capacity and improved processes of production. The downward trend in prices in subsequent years reflects these changes in the industry. Third, although prices in 1939 were approximately equal to those established in 1913, they changed only moderately during the years of depression.

TABLE 22.—Plate glass: Quoted prices, f. o. b. plants, for glazing quality, cut sizes, in specified years

[Per square foot]

Size <sup>1</sup>	1913	1921	1923	1925	1926	1929	1931	1933	1936	1939
Not over 384 square inches:										
Other than automobile.....	\$0.19	\$0.33	\$0.49	\$0.31	\$0.20	\$0.21	\$0.20	\$0.24	\$0.19	\$0.22
Automobile sizes.....	.26	.42	.70	.55	.42	.35	.30	.31	.23	.23
384 to 720 square inches.....	.29	.52	.85	.60	.50	.42	.35	.35	.27	.29
720 to 1,008 square inches.....	.36	.58	.88	.68	.53	.45	.36	.37	.29	.31
Above 1,008 square inches <sup>2</sup> .....	.43	.71	1.00	.82	.62	.54	.46	.46	.37	.39

<sup>1</sup> Between 7/64 and 9/32-inch thickness.

<sup>2</sup> Between 25 and 50 square feet only.

Source: Data obtained from domestic manufacturers by Tariff Commission.

Delivered prices conform generally to a multiple-basing point system. Prices are quoted f. o. b. factory with freight equalization to the nearest competing factory. The Pittsburgh Plate Glass Co., for example, when selling to a customer in Detroit would ship glass from either Creighton, Ford City, Pa., or Crystal City, Mo., and would absorb the amount by which the freight charges from these plants to Detroit exceed the freight charges from the Libby-Owens-Ford plants at Toledo, Ohio. The buyer would be required to pay only the equivalent of the freight charges from Toledo to Detroit.

In the sheet glass industry four companies produce practically the entire output. Three of these companies (Libby-Owens-Ford, Pittsburgh Plate Glass, and American Window Glass) in 1937 produced over 75 percent of the total output; the first two companies produced over 50 percent of the output. The fourth company, the Fourco Glass Co., is a consolidation of four or five small independent companies<sup>10</sup> and is also a sales agent for several other small independent companies. The two largest companies have patented and developed mechanical sheet drawing processes of manufacture which are used exclusively by them and their licensees abroad. Under agreements with the parent companies, licensees in foreign countries are prohibited from exporting to the United States glass produced by these processes.<sup>11</sup>

Wholesale prices as quoted by leading domestic manufacturers for representative types of window glass over a period of years are given in table 23.

TABLE 23.—Common window glass: Average quoted wholesale prices, f. o. b. plant, per box containing 50 square feet of glass, in specified years

Year	Size bracket 25 united inches <sup>1</sup>			
	Single strength		Double strength	
	A quality	B quality	A quality	B quality
1913.....	\$1. 80	\$1. 72	\$2. 37	\$2. 25
1923.....	2. 96	2. 53	4. 54	3. 54
1926.....	2. 73	2. 22	4. 44	3. 17
1929.....	2. 65	2. 16	3. 94	3. 23
1931.....	1. 84	1. 45	2. 83	2. 13
1933.....	1. 96	1. 52	2. 91	2. 28
1934.....	1. 80	1. 40	2. 60	2. 00
1935.....	2. 21	1. 61	3. 00	2. 35
1936.....	2. 20	1. 90	3. 08	2. 65

<sup>1</sup> Size brackets are the sum of the length and width of the glass.

Source: Data obtained by the Tariff Commission from domestic manufacturers.

There were no significant price changes during the period 1936-39. Since single strength B quality glass is the most important type used, it reflects the main price trends. In general the price of this item follows closely changes in general business conditions. During the years of depression, especially in 1934, price cutting prevailed generally. These conditions led in 1935 to the formation of the Fourco Glass Co. which was intended to strengthen the position of small independent producers.

<sup>10</sup> These companies use the Fourcault (Belgian patented) process of sheet drawing.

<sup>11</sup> The sheet glass industry in European countries is strongly cartelized not only within each country but internationally as well. These organizations perform the usual cartel functions of price and production control and the allocation of markets to member concerns. The two largest American glass manufacturers exert an influence over the European industry through their financial interests therein, and through their control over important patents used in the manufacture of sheet glass.

Delivered prices conform in general to a multiple-basing point system. Plants have been located, so far as supplies of raw materials permit, in various sections of the country in order to minimize freight charges. Prices for sheet glass are usually quoted as f. o. b. plant with freight equalized with the nearest competing plant to the buyer. A customer buying glass from a distant plant pays the same freight charges he would have paid if the glass had been purchased from a nearby plant. The producers try to share in the large national markets regardless of the location of their plants. This practice of shipping into one another's territory, with little regard to economy of freight costs, has been a disturbing practice in the industry and it is alleged to have been another reason for the formation of the Fourco Co.

Rolled glass and polished wire glass are produced in the United States by nine companies. Two companies (Mississippi Glass Co. and Blue Ridge Glass Corporation) account for over 80 percent of the output of rolled glass (the first for about 50 percent), and they also account for over 90 percent of the total output of polished wire glass. Several of the smaller companies are engaged primarily in the production of specialties. The Mississippi Glass Co. sells to the jobbing trade in various sections of the country. It also supplies a substantial portion of the rolled glass distributed by other glass companies which do not manufacture rolled glass, but desire to offer a full line of rolled glass, plate glass, window glass, and other building materials. The output of the Blue Ridge Glass Corporation is sold by the Libby-Owens-Ford Glass Co. which does not produce rolled glass.

Wholesale prices for rolled glass and polished wire glass, as quoted by leading domestic manufacturers for representative types over a period of years, are given in table 24.

TABLE 24.—*Rolled glass and polished wire glass: Manufacturers' quoted prices, f. o. b. plant, for representative kinds in stock sheets, in specified years*

[Per square foot]

Year	Rough and ribbed glass	Figured glass	Rough and ribbed wire glass	Figured wire glass	Polished wire glass <sup>1</sup>
	$\frac{1}{8}$ inch	$\frac{1}{8}$ inch	$\frac{1}{4}$ inch	$\frac{1}{4}$ inch	$\frac{1}{4}$ inch
1913.....	\$0.04	\$0.05	\$0.09	\$0.09	\$0.43
1920.....	.105	.125	.21	.21	.76
1924.....	.07	.085	.155	.155	.75
1929.....	.055	.09	.13	.15	.46
1930.....	.048	.07	.103	.123	.45
1931.....	.045	.06	.09	.11	.43
1932.....	.05	.07	.10	.11	.42
1934.....	.05	.08	.11	.12	.50
1936.....	.05	.08	.12	.14	.45
1938.....	.045	.065	.09	.117	.45

<sup>1</sup> Average for various sizes.

Source: Data obtained by the Tariff Commission from domestic manufacturers.

With the exception of the immediate post-war years when the demand for building glass increased sharply, prices have changed very little from year to year. Three of the items, however (figured glass, rough wire glass, and figured wire glass) show more variation in price



than the other two. Delivered prices are based on freight equalization with the nearest competing plant to the buyer.

Structural glass is produced in the United States by four companies. Two of these companies (Pittsburgh Plate Glass Co., and Libby-Owens-Ford Glass Co.) account for about 80 percent of the total output; the first produces about 60 percent of the total output. Since structural glass of many types are produced, there are no price data of any significance for year-to-year comparisons.

Laminated glass is produced by seven domestic manufacturers. The two largest companies (Libby-Owens-Ford and Pittsburgh Plate Glass) account for about 75 percent of the total output. They are in a dominant position with regard to the sale of laminated glass because of contractual relations with the large automobile manufacturers. The Ford Motor Co. makes laminated glass for its requirements, which represents about 20 percent of the total output. In some years it produces nearly all of the glass used for this product. The other manufacturers of this product, with the exception of the American Window Glass Co., do not manufacture glass, but limit their operations to the laminating of purchased glass. Satisfactory price data for year-to-year comparisons are not available.

The foregoing brief analysis of trends in concentration indicates that two companies, the Pittsburgh Plate Glass Co. and the Libby-Owens-Ford Glass Co., have achieved a dominant position in the flat-glass industry. This position is especially clear-cut with regard to plate glass, structural glass, and laminated glass. In the sheet-glass industry the degree of concentration is less pronounced, but the above companies are important producers. Price trends of plate and sheet glass reflect roughly the difference with regard to concentration. Although these two companies do not produce rolled glass and polished wire glass, they apparently have satisfactory arrangements with the two large producers in that industry which enable them to complete their selling line of glass products. During the same period producers in the flat-glass industry in European countries combined and organized both on a national and international basis. The two largest companies in the United States, the Pittsburgh Plate Glass Co. and the Libby-Owens-Ford Glass Co., are connected by direct ownership, licenses, or agreements with the European industry.

Several factors are important in an historical interpretation of the trends in concentration in the flat-glass industry. In the early stages increased concentration seemed to be largely the result of efforts to combine horizontally independent producers into one company without changing substantially the scale of production in any one plant. Tariff protection by restricting severely foreign selling in the domestic market facilitated greatly the early combination movement. Later, when the transition from hand processes to machine processes became more nearly complete, concentration occurred largely because of the economies of large-scale production. This development, however, was based in part on the use of patents, and consequently, some reduction in the number of producers in recent years cannot be attributed to the changing scale of production. Tariff protection, moreover, became less important as a facilitating factor when concentration both nationally and internationally became more dependent on large-scale production and the use of patented processes. Less important features of the recent trends in concentration are the growth of vertical



integration and the emphasis on a complete selling line. Although the efficiency of plant operations has been increased, the practice of freight equalization indicates a lack of economy with regard to transportation costs.

#### 5. INDUSTRIAL CONCENTRATION AND TARIFF PROTECTION: AN EVALUATION OF EXISTING CONDITIONS, SUGGESTED CHANGES, AND THEIR PROBABLE EFFECTS

The flat-glass industry of the United States has received tariff aid since 1789; it is no longer an infant.<sup>12</sup> During the last decade it has become almost completely mechanized and the domestic industry was a pioneer in many of these technical improvements. Undoubtedly the very substantial and prolonged tariff protection received in the past provided in part a basis for the expansion and recent technical achievements of the industry. In view of these achievements, however, and in view of the present degree of industrial concentration in the industry, the problem of future tariff policy is of primary importance. This problem is discussed below with reference to different branches of the industry.

The plate glass industry of the United States is on an export basis. In Canada and several other foreign markets the United States has displaced Belgium as the chief source of supply for plate glass. Imports are relatively very small (less than exports), are consumed in and near the ports of entry, and are used principally in the building and furniture industries. The main domestic market, the automobile industry, is supplied by domestic producers. They have better facilities for manufacturing large quantities of partially standardized automobile sizes of plate glass, for transforming these into suitable shapes and dimensions, and for converting them into laminated glass. Proximity of the domestic producers to the automobile manufacturing centers gives them an advantage in transportation charges and also enables them to render promptly services of all kinds. Tempered plate glass, a substitute for laminated glass, which is used more abroad than in the United States, is a potential factor in the import situation because foreign producers have had more experience with its production. At present tempered plate glass is not a close substitute for laminated glass and in view of the recent improvements in laminated glass it is not likely to become an important factor in the domestic market. If future developments become more favorable for tempered plate glass, the two large domestic manufacturers of plate glass and laminated glass would certainly be able to overcome very quickly any initial handicap imposed by lack of experience. In 1937, for example, 7,322 square feet of tempered plate glass, valued at \$6,626, was exported by domestic producers.

Because of the above factors a substantial reduction in the duty on plate glass and laminated glass, or even its complete removal, would probably result in no large increase of imports. Only a very moderate increase has occurred under the Belgian agreement (reduction of about 33½ percent). Any moderate increase would be confined to coastal areas and would consist mainly of plate glass for use in the building and furniture industries. Prices of plate glass in and near the main

<sup>12</sup> The industry, however, opposed tariff reductions in the trade agreements. Committee for Reciprocity Information, stenographer's minutes of hearings, Czechoslovakia and Belgium.

ports of entry would be lowered. Concentration in the domestic industry would not be appreciably affected.

The sheet glass industry is not on an export basis.<sup>13</sup> Usually about one-half of the relatively small imports of sheet glass consists of window glass (16 to 26 ounces per square foot) and the remainder of a varying proportion of thin glass (less than 16 ounces) and heavy glass (over 26 ounces per square foot). Heavy sheet glass is a substitute for plate glass in uses such as shelving, show windows, and table tops. The thin sheet glass which is used in the manufacture of photographic dry plates and lantern and microscopic slides is the only type of imported sheet glass which is sold in inland markets (Rochester, N. Y. and St. Louis, Mo.).<sup>14</sup> Transportation charges on shipments of window glass frequently amount to as much as 15 to 25 percent of the wholesale price (f. o. b. plant). Many of the domestic plants are located some distance inland and transportation charges from these plants to coastal markets usually exceed similar charges from Belgian plants to these same markets. Although the specific duties on sheet glass are moderately high in terms of an average equivalent ad valorem rate, a substantial reduction would probably not increase greatly the volume of imports. During the brief period of the Czechoslovak agreement (a reduction of about 30 percent), imports decreased. Imports in recent years have not exceeded 6 percent of domestic consumption. With little or no tariff protection any increase in the imports of window glass which could not be stopped by the large domestic manufacturers because of their agreements, patent, and otherwise, with foreign producers, could be held to a small increase in the coastal areas by price reductions. These price reductions would probably accentuate concentration in the domestic industry and reduce somewhat excess capacity, but imports, actual and potential, would be a partial regulator of domestic price.

The specific duties on rolled glass are moderate in terms of an equivalent ad valorem rate. Since it is a comparatively heavy and inexpensive glass, freight charges, both inland and ocean, have restricted imports to coastal areas. Imports are small compared with domestic production, and are probably about equal to exports.

Polished wire glass, which is produced mainly by the two large manufacturers of rolled glass, has a rather limited market, namely, in the construction of the more expensive types of commercial and public buildings. Since imports in recent years have been nil or negligible, the equivalent ad valorem rate has varied greatly and has very little significance. Exports are probably very small and may exceed imports. Although the duty was reduced in the Belgian agreement about 33½ percent, imports showed no appreciable change.

A substantial reduction in the duties on these products would probably not increase imports appreciably, would lower slightly prices in the coastal areas, would reduce excess domestic capacity, and would increase concentration in the domestic industry.

Imports of structural glass have consisted principally of black and white glass divided about equally between thicknesses of more than

<sup>13</sup> Exports for 3 years 1936-39 averaged less than one-tenth of 1 percent of domestic production.

<sup>14</sup> Domestic production of sheet glass usually consists of about 85 percent window glass, 13 percent heavy glass, and 2 percent thin glass.

and less than one-half inch. Although the duty was reduced in the Belgian trade agreement, imports have remained negligible as compared with domestic production. Because of high transportation costs to inland markets, imports are consumed in and near the ports of entry. Exports are not separately reported. Since the two large producers of structural glass are also the two largest producers in the flat glass industry, a substantial reduction in the duty would not affect the import situation appreciably except with regard to a slight lowering of prices in the coastal areas. Elimination of the duty would increase the concentration in the domestic industry.



## CHAPTER V

### THE BORATES INDUSTRY

#### 1. BORATES AND THEIR USES

Borax (the sodium salt of pyroboric acid, in commercial practice) and boric acid (or boracic acid) are the borate products of commercial importance. Borax is obtained by refining certain minerals or from lake brines; boric acid, mainly by treating borax with sulphuric acid. There are 60 or so known borate minerals of which only about a half dozen are of much importance. The commercial value of these is largely determined by the boron oxide content which averages around 50 percent in the best crude minerals. The mineral Colemanite was of principal importance until the end of the 1920's when it was displaced by Kernite. Borax is obtained directly from the brine of several lakes in California, particularly Searles Lake, by a process of evaporation and fractional crystalization. About 1 ton of borax is obtained as a coproduct of 2 tons of muriate of potash. No crude borate is produced in the process.

Borax and boric acid have many similar uses. They are important ingredients in the manufacture of enamels for coating metalware (bathtubs, sinks, etc.); in the manufacture of glass, particularly heat-resisting glasses used in kitchenware, lamp chimneys, and signal lenses and in the production of glazes for tiles, earthenware, and china. Other important uses are in the manufacture of adhesives, detergents, sizing compounds, metallurgical fluxes, and starches. Borax is used in the washing of citrus fruits to prevent decay; in the leather industry for soaking, cleaning, and neutralizing solutions; and in the textile industry as a "buffer" in dye-baths and for the degumming of silk. It is used, also, as a household cleanser and water softener. Boric acid is used to some extent in the manufacture of abrasives, and is widely used in pharmaceutical preparations and cosmetics.

World production of borates is largely controlled by a British concern, Borax Consolidated, Ltd., which is engaged in refining borate minerals (obtained almost entirely in the United States) in most of the important consuming countries, including the United States. Its only serious rival in the industry is an American concern (the American Potash & Chemical Corporation) that produces from lake brines. In the last 10 years the United States has furnished 90 percent of the world output of crude borates; about 50 percent of the world output of borax; and around 75 percent of the world production of boric acid. Borate minerals are available in large quantities in Chile, Peru, Argentina, Bolivia, Turkey, Italy, and the Soviet Union.

#### 2. TARIFF HISTORY

All the important borate consuming countries (the United States, Great Britain, France, Germany, etc.) assist by tariff and similar protection the domestic refining of crude borate materials, which are



usually allowed free entry. The trade legislation affecting borates is known to have been considerably influenced by the world-wide concern, Borax Consolidated, Ltd.

United States imports of borate materials, crude and refined, are negligible in comparison with domestic production. Imports of crude borate materials were dutiable at rates ranging from  $1\frac{1}{2}$  to 3 cents per pound from 1883 to 1913, but became free of duty under the Tariff Act of 1913 and subsequent acts. There have been no imports in most years since 1929.

Imports of refined borates (borax and boric acid), mostly special products for technical and pharmaceutical purposes, were dutiable at rates ranging from 2 to 5 cents per pound from 1883 to 1913. Under the act of 1913 and later acts, borax has been dutiable at one-eighth cent per pound. The equivalent ad valorem of this duty since the World War has averaged 12 percent and has ranged from 3 percent in 1919 to 54 percent in 1928. In each year since 1932 it has averaged 5 percent.

The duty on boric acid was three-fourths cent per pound under the act of 1913;  $1\frac{1}{2}$  cents per pound under the act of 1922; and has been 1 cent per pound under the act of 1930. The ad valorem equivalent averaged 11 percent from 1919 to 1922, 26 percent from 1923 to 1930, and 16 percent from 1930 to 1938 (21 percent in 1933 and 11 percent in 1937).

### 3. DOMESTIC PRODUCTION, IMPORTS, AND EXPORTS

Figures representing the combined domestic output (since 1900) of borate minerals and borates derived from brine are published by the Bureau of Mines. These show a fluctuating but steadily increasing output. It amounted to 34,430 short tons, valued at \$661,400, in 1903; 108,875 tons (\$3,610,000) in 1917; 181,915 tons (\$3,024,000) in 1932; and 358,898 tons (\$7,233,000) in 1937. During the 35-year period from 1903 the aggregate production has been slightly over 4,000,000 tons valued at \$97,000,000. Probably 75 percent of the output prior to 1921 and 50 percent since that year can be credited to the American affiliate of Borax Consolidated, Ltd. (Pacific Coast Borax Co.). During the latter period probably 40 percent can be credited to the domestic concern which produces from brine (American Potash & Chemical Corporation).

The Census of Manufactures reports the output (for sale) of refined borax and boric acid. The production of borax increased from 21,000 short tons, valued at \$2,123,000 in 1904 to a high of 126,000 tons (\$3,416,000) in 1937. The 1937 output, on a volume basis, was 37 percent above that in 1929, although on a value basis it was 33 percent below that of 1929. The unit value has decreased steadily from a maximum reached in 1919. It was 7.8 cents per pound in that year; 3.9 cents per pound in 1929; and 1.4 cents per pound in 1937.

Output (for sale) of boric acid has increased similarly. It amounted to 3,478 short tons, valued at \$527,000 in 1904; 13,028 tons (\$1,541,000) in 1929; and 20,262 tons (\$1,545,000) in 1937. The unit value per pound was at a maximum of 14 cents in 1921. It decreased to 5.9 cents in 1929, and averaged 3.8 cents in 1937.

The only prices available for borax and boric acid are those published by the trade journals. They do not cover the bulk of sales, which are by contract, and are useful only to show trend. The average spot price in New York for borax (crystals) increased regularly from 3.8 cents per pound in 1913 to 8.2 cents in 1920, and then decreased just as regularly to 2.1 cents per pound in 1934.<sup>1</sup> The average spot price has not fluctuated much from 2.4 cents per pound since 1934. The spot price (in barrels) for boric acid increased from 7 cents per pound in 1913 to 14.3 cents in 1920 and subsequently declined to 4.5 cents in 1933. Since 1933 there has been a gradual increase to 5.5 cents per pound in 1936-37.

Lower production unit values and spot prices for borax and boric acid are in large part due to the discovery and use of the high-grade mineral, Kernite, which involves much lower refining costs.

Production of borates in the United States is concentrated in California; shipment to centers of largest consumption, in the industrial East, is chiefly by rail.

Combined exports of borates, crude and refined, and boric acid have steadily increased and have become exceedingly large, amounting to about 45 percent of domestic production. They consist in considerable part of unrefined borate minerals,<sup>2</sup> shipped by the American affiliate of Borax Consolidated, Ltd., to refineries in other countries. Crude borates and refined borates are classified together in United States export statistics under the heading, sodium borate (borax), while boric acid is separately recorded. Exports falling in the first classification are the largest. They amounted to 14,300,000 pounds, valued at \$1,207,000 in 1920; to 160,000,000 pounds (\$2,935,000) in 1929; and to 308,000,000 pounds (\$4,716,000) in 1937. The unit value of these exports decreased from 8.4 cents per pound in 1920 to 1.8 cents per pound in 1929 and to 1.5 cents in the last few years. An analysis of the imports into Great Britain, Germany, France, and Belgium (the principal foreign markets) for the years 1929 to 1936, inclusive, shows that about 60 percent of the imports from the United States consists of unrefined borates.

The proportion of refined borax in exports classified as sodium borate is known to have decreased; it is possible, however, that the exports have increased steadily. Exports of boric acid, for which statistics are available, increased from 727,082 pounds, valued at \$79,000 in 1924; to 5,024,000 pounds (\$180,000) in 1929; to 9,257,000 pounds (\$498,000) in 1936; and to a high point of 15,844,000 pounds (\$735,000) in 1937. On a volume basis, the exports in 1937 represented 39 percent of the domestic output. The unit value per pound averaged 11 cents in 1924, 4 cents in 1929, and 5 cents in 1937.

The United Kingdom and Germany have taken about 50 percent of total exports classified as sodium borate, largely unrefined borate materials as previously noted. Other countries regularly taking substantial quantities are Canada, the Netherlands, France, Japan, Belgium, Italy, Spain, Mexico, Cuba, China, Australia, and New Zealand, mostly in refined grades. Ordinarily the exports go to 40 or so countries. Exports of boric acid have gone chiefly to the United Kingdom and Canada, with Germany, France, and Japan as other principal

<sup>1</sup> Figures shown are from statistics published by the Bureau of Labor Statistics.

<sup>2</sup> These are usually concentrated by the removal of shale and clay and by partial dehydration.

markets. Mexico, Cuba, Colombia, China, New Zealand, and Australia also frequently take substantial quantities.

While the trend in domestic production and exports has been upward, imports of borates, crude and refined, have declined. The imports have been negligible, in most years, in comparison with both domestic production and exports, and have been characterized by extreme fluctuations. They consist almost wholly of refined borates, chiefly boric acid for technical and pharmaceutical purposes. The bulk of imports is believed to be supplied by mines and refineries belonging to Borax Consolidated, Ltd.

From 1905 to 1914 imports of crude borates ranged from 40 pounds, valued at \$4, in 1908 to 57,711 pounds (\$2,436) in 1906; and averaged about 16,000 pounds (\$1,400) in the period. During the World War years, the imports were negligible or nonexistent. From 1921 to 1929, they ranged from 7,800,000 pounds (\$167,512) in 1921 to 18,900,000 pounds (\$373,403) in 1922, and averaged 10,500,000 pounds (\$178,000). These fairly sizeable imports (estimated at around 7 percent of domestic production) were probably due mostly to the temporary inability of the domestic industry to supply total requirements, which were increasing rapidly during the period. It may also have been that one of the smaller producing companies (Sterling Borax Co.), no longer having its own direct source of crude supply after the sale of its mine in 1921, made the bulk of these importations. In most years since 1929 there have been no imports of crude borates. In 1931, 1,100,000 pounds, valued at \$16,507, were imported; and, in 1933, 2,100,000 pounds, valued at \$30,742.

Imports of boric acid decreased irregularly from 986,000 pounds, valued at \$33,200, in 1906, to 7,334 pounds (\$688) in 1937. They averaged 478,000 pounds (\$18,000) from 1905 to 1913; 382,000 pounds (\$22,000) from 1914 to 1919; 329,000 pounds (\$22,000) from 1920 to 1929; and 50,000 pounds (\$2,600) from 1930 to 1937. From 1900 to 1925 the imports ranged from 2 to 5 percent of the domestic output, but since 1925 they have consistently been below 1 percent.

Imports of refined borax have also declined and represent less than 1 percent of domestic output. The imports were quite large at the start of the century and reached a high point of 2,268,000 pounds, valued at \$77,258, in 1907. In the next few years they decreased rapidly, however, and have since been comparatively insignificant except for 1921, 1924, and 1928. In these years they amounted, respectively, to 226,000 pounds (\$12,477), 169,000 pounds (\$6,944), and 211,000 pounds (\$4,906). In 1937 imports amounted to 724 pounds, valued at \$176.

Prior to 1925 imports of crude borates came very largely from Chile with minor quantities from Great Britain (probably of Turkish origin). The imports in more recent years have been chiefly from Turkey. Italy has usually supplied over 90 percent of imports of boric acid. The United Kingdom, France, and Germany have been other sources. Imports of refined borax have come principally from the United Kingdom, and also from Germany, France, and Italy.

#### 4. TRENDS IN CONCENTRATION

The outstanding concerns in the domestic borates industry are the Pacific Coast Borax Co., an affiliate of Borax Consolidated, Ltd., and

the American Potash & Chemical Corporation, which is primarily interested in fertilizer. The first concern produces borates from the mineral kernite; output is exported in large quantities (mostly unrefined) and is also sold in the domestic market. The second concern produces refined borates directly, along with muriate of potash, from lake brines. Its output of borates is sold almost entirely in the domestic market. The Three Elephant brand of this company on its borax and boric acid has become nearly as well known as the Twenty-mule-team brand of the Pacific Coast Borax Co.

The borates industry in the United States can be said to have come into existence in the 1870's when a company, which later became the Pacific Coast Borax Co., was organized in Nevada. Operations of this company were transferred to California about 1885, in order to concentrate on the recovery of Colemanite, a mineral discovered in Death Valley. British capital became interested in the industry, and in 1899 the Pacific Coast Borax Co., became the major subsidiary of Borax Consolidated, Ltd., which was registered in Great Britain, in the same year—

to acquire the borate and colemanite deposits, boracite mines, railways, factories, etc., in the United States, England, France, Austria, Turkey, and South America of various companies, including Borax Co., Ltd., Pacific Borax & Redwoods Chemical Works, Ltd., Soc. Lyonnaise des Mines et lesines de Borax.<sup>3</sup>

From the time of its organization Borax Consolidated, Ltd., has been the leading borates producing enterprise of the world without any serious rival except perhaps the American Potash & Chemical Corporation.

Production statistics indicate that the Pacific Coast Borax Co. has been the most important producing subsidiary of Borax Consolidated, Ltd. With adequate financial resources, it has been able to purchase an extensive array of the best claims, and to build railroads, refineries, etc., in order to work the choicest of these claims to the best advantage. In 1928 the company (reorganized in 1914) concentrated its mining activities at Kramer, near Los Angeles, about 150 miles from seaboard. In 1930-31 the refinery at Wilmington, Calif. (built in 1924), was enlarged.

The other leading domestic producer of borates, the American Potash & Chemical Corporation, was originally organized in 1913 as the American Trona Corporation. The present name was taken following a reorganization in 1926. The company, as previously noted, uses a process of evaporation and fractional crystallization to obtain, from lake brines, approximately 1 ton of refined borax<sup>4</sup> as a coproduct to 2 tons of muriate of potash. The latter product is marketed mostly for fertilizer use, and the company has been until recently the largest producer of this product in the United States. The capacity of the plant (built on Searles Lake, Calif., in 1916, and later expanded) is reported as being about 80,000 tons annually of refined borax. A portion of the output of refined borax is converted to boric acid, the plant capacity for this product is at least 25 tons per day. In 1934 the company put into operation a plant for the recovery of sodium carbonate and sodium sulphate. Earnings of the company continued through the depression years, although dividends were omitted from 1932 to 1935, inclusive.

<sup>3</sup> Moody's Manual of Investments.

<sup>4</sup> The process of the company is such that it does not produce a crude borate.



Production of borates by concerns other than Pacific Coast Borax Co. and American Potash & Chemical Corporation has been relatively small. The Stauffer Chemical Co. of San Francisco has controlled two concerns, Sterling Borax Co., and the Russell Borate Mining Co. (later Borax Mines, Inc.) which from 1907 until after the World War constituted about the only source of real competition to Pacific Coast Borax Co.<sup>5</sup> Sterling Borax Co. was one of the most successful of the smaller companies in the borates industry. Organized as a merger of five interests,<sup>6</sup> it was operated from 1907 to 1921, when its mine at Lang, Calif. (near Los Angeles) was acquired by the Pacific Coast Borax Co. Since 1921 it has continued as a refiner, with plants at Chicago and New Brighton, Pa.

Another company apparently closely associated with the Stauffer Chemical Co. is the United States Borax Co., prior to 1934 the Western Borax Co. This company operates in the vicinity of Kramer, Calif., and markets at least part of its output through Borax Union, a Stauffer subsidiary.

In 1924-25 Suckow Borax Mines Consolidated, Inc., was organized to develop certain properties in the neighborhood of Kramer. Production of the company was intermittent and small until 1934, when its properties were leased for 10 years to the Pacific Coast Borax Co.

Besides the American Potash & Chemical Co., there have been other concerns producing borates from lake brines. The West End Chemical Co., organized about 1919, has been obtaining borax since 1927 as a byproduct in the production of sodium bicarbonate and soda ash. Since 1929 the company has been marketing its borax, at least in part, through Borax Union, subsidiary of the Stauffer Chemical Co. Another company to undertake the production of borax from brines was the Burnham Chemical Co. Organized about 1920 to take advantage of certain newly patented processes, the company received considerable publicity for several years as a stock promoting proposition. A fair-sized plant was finally erected (near that of the West End Co.) and a small output is understood to have been obtained from 1926 to 1929, since when nothing further is known of the company. The only other company producing borax from lake brines is the Pacific Alkali Co., with plant at Bartlett on Owens Lake. A Los Angeles group of capitalists, known as the Kuhnerts Syndicate, organized the company about 1926, and the plant has been producing natural sodium bicarbonate, sesquicarbonate, and borax in moderate amounts since 1929. It is understood that at times the bulk of the output has been exported.

##### 5. MONOPOLY AND TARIFF PROTECTION: AN EVALUATION OF EXISTING CONDITIONS, SUGGESTED CHANGES, AND THEIR PROBABLE EFFECTS

The domestic borates industry is an example of a high degree of industrial concentration, but tariffs seem to be of minor importance in its development. Although the duties were restrictive during the early period, they had little connection with the growth of concentration. Financial resources which were international in scope and the

<sup>5</sup> American Potash and Chemical Corporation not an important factor during that period.

<sup>6</sup> American Borax Co., Frazier Borate Co., Stauffer Chemical Co. (all in California), Thos. Thorkildson Co., Chicago, and the Brighton Chemical Co., New Brighton, Pa. The latter 3 companies were refiners of borate materials mined by American and Frazier. Stauffer owned the controlling interests.



acquisition of excellent mineral deposits were the main factors in the development of concentration.

The duties on refined borax and boric acid have been reduced from 5 cents per pound in 1890 to one-eighth and 1 cent per pound, respectively, in the act of 1930. Since 1913 imports of crude borates have been free of duty. These changes in duties reflect the shift of the domestic industry to a very large export basis. Apparently the duties no longer restrict imports. The domestic industry, however, is dominated by two companies, one of which is a subsidiary of a very important British company in the borax industry. Although removal of the duties might not have any effect on the import-domestic price situation, it would eliminate the possibility of having the leading producers use the duties as a partial aid in the allocation of markets.



## CHAPTER VI

# SOFTWOOD LUMBER OF THE UNITED STATES AND THE TRADE AGREEMENTS

### 1. INTRODUCTION

The following report is an analysis of the softwood lumber industry of the United States as affected by recent changes in import charges.<sup>1</sup> Since hardwoods and cabinet woods involve separate problems and are of relatively less importance, they are not included. Softwood lumber, as indicated later in the report, does not include logs, but consists almost entirely of sawed items such as boards, planks, etc., produced from coniferous trees. The domestic sawmill industry, which is primarily affected by the recent changes, is located in the Pacific Northwest and in the Southern States. The former produces mainly fir, pine, hemlock, cedar, and spruce; the latter produces pine and cypress. The industry is subject to only a very moderate degree of industrial concentration.

Softwood lumber imported into the United States comes almost entirely from Canada. Both Canada and the United States export softwood lumber to the United Kingdom, but the Canadian lumber enters free of duty and the American lumber is subject to duty. In the recent trade agreements with Canada (first and second) and the United Kingdom the import charges of the United States on softwood lumber were reduced for the benefit of Canada and in turn Canada agreed to a reduction by the United Kingdom of the preferential tariffs against American lumber for the benefit of the United States. An evaluation of the immediate effects of the above changes on the American softwood-lumber industry is the subject of the subsequent analysis. Although the American softwood-lumber industry may be affected, favorably or unfavorably, by tariff changes in the above agreements on related softwood manufactured products, such as plywood, doors, box shooks, and crating stock, and by tariff changes on other products in these agreements as well as in trade agreements with other countries, no accurate allocation of these indirect effects can be made to the softwood-lumber industry. To evaluate these indirect effects involves the trade-agreements program as a whole, which is not the subject of this report.

<sup>1</sup> For more detailed information with regard to the American lumber industry, international trade in softwood lumber, and tariffs on softwood lumber see the following published reports:

U. S. Tariff Commission, Washington, D. C.: Imports, Exports, Domestic Production and Prices: Petroleum, Coal, Lumber, etc., 1937, pp. 34-58; (same title) 1939, pp. 23-37. Second Trade Agreement between the United States and Canada, vol. II, 1938, schedule 4, pp. 1-12. Changes in Import Duties Since the Passage of the Tariff Act of 1930, January 1939.

Committee for Reciprocity Information: Stenographer's minutes of the hearings on the second Canadian agreement: Ward and Paul, official reporters, Washington, D. C., vol. 1, pp. 121-188.

Department of State, Washington, D. C.: The New Trade Agreement With Canada, November 17, 1938, pp. 39-40, 50-52, 72-73, 96, and 111. The Trade Agreement With the United Kingdom, November 17, 1938, pp. 8-9, 36-43, 112. Memorandum on the Lumber Concessions in the United States-Canadian, and the United States-United Kingdom Trade Agreements.

U. S. Government Printing Office, Washington, D. C.: Text of Trade Agreement Between the United States and the United Kingdom. Text of New Trade Agreement Between the United States and Canada.

## 2. TARIFF HISTORY

Under the Tariffs Acts of 1913 and 1922, imports of softwood lumber entered the United States free of duty.<sup>2</sup> In the Tariff Act of 1930 (par. 401), a duty of \$1 per thousand board feet was imposed on imported lumber of fir, spruce, pine, hemlock, and larch. Rough lumber of the same species, not further manufactured than planed on one side, which is imported almost entirely from Canada, was provisionally free of duty until June 21, 1932.<sup>3</sup> Other softwood lumber, principally cedar, was free of duty (par. 1803).<sup>4</sup>

Nearly all of the lumber imports, classified above, come from Canada and consist mainly of fir, spruce, and pine. In 1931 approximately half of the Canadian imports, on a value basis, were free of duty; and the other half were dutiable at \$1 per thousand board feet, which averaged about 5 percent ad valorem. The Tariff Act of 1930, therefore, provided only a mild form of protection for the softwood-lumber industry.

The Revenue Act of 1932 changed substantially the amount of protection. It levied an import excise tax, effective June 21, of \$3 per thousand board feet on all imported lumber except certain hardwood flooring. Since Canada revived at the same time an excise tax of 3 percent on lumber imported from the United States, the provisional duty of \$1 on rough lumber (par. 401) imported from Canada became effective.<sup>5</sup> From June 21, 1932, to December 31, 1935, nearly all softwood lumber imports paid a combined duty and tax of \$4 per thousand board feet.<sup>6</sup> The ad valorem equivalent of the combined charge averaged about 18 percent during the years 1933-35. Since January 1, 1936, under trade agreements with Canada the combined duty and tax is \$2.<sup>7</sup> It averaged about 9 percent, equivalent ad valorem, during the years 1936-37. The import charge of \$2 applies to the bulk of softwood lumber imports. The exceptions are principally cedar (par. 1803), subject only to the reduced excise tax of \$1.50;<sup>8</sup> and northern white pine, Norway pine, and western white spruce subject only to the reduced duty of 50 cents (Revenue Act of 1938). Although the above recent changes have reduced substantially the amount of protection for softwood-lumber, it still remains more than twice the amount provided originally by the Tariff Act of 1930; that is, the ad valorem equivalents are now about twice as high as formerly and all softwood-lumber imports are now subject to duty or tax, or both.

In the second trade agreement with Canada, effective January 1, 1939, Canada reduced the duty on dressed lumber, other than hardwood flooring, to 10 percent ad valorem. Prior to the first agreement, effective January 1, 1936, the duty was 25 percent.<sup>9</sup> Rough lumber

<sup>2</sup> In the act of 1922, a provisional duty on softwoods was included, but it never was imposed.

<sup>3</sup> Imports from a country contiguous to continental United States which admitted free similar lumber imported from the United States were free of duty (par. 401).

<sup>4</sup> Countervailing duties were provided, but never imposed. They were repealed by the Trade Agreements Act of 1934. Under this paragraph logs of all species are free of duty.

<sup>5</sup> Even though Canada has now removed the excise tax (repealed in 1939), rough lumber (par. 401) is dutiable because the proviso of par. 401 was repealed by sec. 2 (a) of the Trade Agreements Act of 1934.

<sup>6</sup> Softwood lumber other than fir, spruce, pine, hemlock, and larch was subject only to the \$3 excise tax, principally cedar (par. 1803). The equivalent ad valorem averaged (1933-35) about 8 percent.

<sup>7</sup> The Canadian agreements reduced the duty and tax 50 percent. In the first agreement annual imports of Douglas fir and western hemlock in excess of 250,000,000 board feet were not entitled to the reduced rate. This quota was never more than 70 percent filled and it was dropped from the second agreement, effective January 1, 1939. The Revenue Act of 1938, effective July 1, removed the excise tax from lumber of northern white pine, Norway pine, and western white spruce. Unless renewed the excise tax on other lumber expires June 30, 1941.

<sup>8</sup> The equivalent ad valorem (1936-37) averaged about 2½ percent.

<sup>9</sup> Under the first agreement the duty was 20 percent.

is free of duty. The excise tax of 3 percent applicable to all lumber imports (revived in 1932) was removed April 26, 1939. Since the United States exports very little softwood lumber to Canada, these changes are not significant for the American industry. The important changes are included in the trade agreement with the United Kingdom, effective January 1, 1939, which is linked with the Canadian agreement because of preferential tariffs.

The United Kingdom prior to 1932 admitted free all lumber imports. In that year it imposed a duty of 10 percent on softwood lumber imported from non-British countries. Imports from Canada and other British countries remained free of duty. The preference was bound in the Ottawa agreement with Canada (1932).<sup>10</sup> A marked diversion of trade, especially of benefit to Canada with regard to cheaper grades of lumber and Douglas fir, occurred. The trade agreement with the United Kingdom removed part of the preferential treatment.

The concessions on softwood lumber granted by the United Kingdom to the United States consist of two kinds, namely, immediate reduction of duties and provisional reduction of duties. With regard to the former the duty of 10 percent is reduced to 16 shillings per standard (1,980 board feet), or approximately \$2 per thousand board feet (about 4½ percent ad valorem), on the wider forms and higher-priced softwood lumber.<sup>11</sup> On the intermediate grades the 10 percent rate is reduced to a scale of 9 to 5 percent.<sup>12</sup> In the event of wide fluctuations in the price of lumber the agreement provides for an adjustment of the value limitations.<sup>13</sup>

An immediate reduction of the margins of preference against American lumber in the British Caribbean colonies, to which Canada agrees, to the equivalent of \$2 per thousand board feet is made. Under the existing arrangement Canada retains a substantial preference in the United Kingdom, especially on the cheaper grades of softwood lumber, and in the British Caribbean colonies as compared with the United States.

The provisional reduction of duties applies if and when the United States excise tax on imports of lumber is removed and the charges on lumber imported from Canada under paragraph 401 do not exceed 50 cents per thousand board feet. Under these conditions all softwood lumber of the wider and better grades from the United States would be free of duty.<sup>14</sup> On the intermediate grades the 10 percent rate would be reduced to a scale of 9 to 1 percent.<sup>15</sup> The provisional treatment is more liberal than the existing one with regard to duties, value

<sup>10</sup> Other British countries also established preferential duties.

<sup>11</sup> The reduction applies to all softwood lumber, square sawn (other than box boards, railway sleepers, and sleeper blocks), when valued at £18 or more per standard (landed value in the United Kingdom), or when 11 inches or more in width.

<sup>12</sup> That is, on softwood lumber, other than box boards, square sawn (regardless of dimensions), valued at £16 4s. or more, but less than £18 per standard the duty is 10 percent less 1 percent for each 4 shillings by which the value exceeds £16 16s. per standard.

<sup>13</sup> If in 4 consecutive months the average value of sawn softwood imports (exclusive of planed or dressed lumber) either exceeds £14 or is less than £10 per standard and after consultation with the U. S. Government, an adjustment of value limitations may be made. The adjustment involves an increase in the value limitations by £1 per standard for each complete pound sterling by which such average value exceeds £13 per standard, or a decrease of like amount when the average value is less than £11 per standard. Restoration of the original value limitations is to be made as soon as possible after the conditions which gave rise to the modifications no longer exist.

<sup>14</sup> That is, all softwood lumber, square sawn (except box boards, railway sleepers, and sleeper blocks) valued at £18 or more per standard, or 9 inches or more in width and 15 feet or more in length is provisionally free of duty.

<sup>15</sup> That is, on softwood lumber, square sawn (regardless of dimensions) valued at £16 4s. or more, but less than £18 per standard, the provisional duty is 10 percent ad valorem less 1 percent ad valorem for each 4 shillings by which the value exceeds £16 per standard.



limitations, and dimensional qualifications, and finally, under the above conditions the margins of preference against American lumber in the British Caribbean colonies, to which Canada agrees, are to be abolished. If the provisional duties became effective, Canada would still retain in the United Kingdom a substantial preference, especially in the cheaper grades of softwood lumber, as compared with the United States.

### 3. PRODUCTION OF SOFTWOOD LUMBER IN THE UNITED STATES

Domestic production of sawed softwood lumber averaged annually about 30 billion board feet from 1925 to 1929, and 15 billion board feet from 1931 to 1937. Production declined to a depression low of 9 billion in 1932 (table 25). Yellow pine, Douglas fir, ponderosa pine, white pine, and hemlock are the species of greatest importance in production. Washington and Oregon, and the Southern States are the outstanding producing areas; yellow pine being produced in the South and the other species, except white pine, in the Pacific Northwest. White pine is produced in northeastern United States, California, Idaho, and Montana.

TABLE 25.—*Sawed softwood timber and lumber: United States production and average unit values at the mill by species, 1931-37*

QUANTITY—THOUSANDS OF BOARD FEET							
	1931	1932	1933	1934	1935	1936	1937
Douglas fir.....	4, 648, 455	2, 904, 246	3, 969, 154	4, 065, 828	4, 772, 449	6, 320, 505	6, 554, 781
Hemlock.....	960, 431	337, 188	415, 771	478, 130	578, 325	812, 757	861, 674
Spruce.....	233, 617	156, 038	198, 378	259, 345	289, 353	348, 383	370, 356
White pine.....	715, 504	433, 002	532, 088	755, 882	854, 266	997, 922	1, 012, 008
Larch.....	84, 959	50, 064	48, 006	79, 416	97, 734	124, 267	140, 806
Yellow pine.....	4, 429, 643	3, 068, 898	4, 445, 577	4, 472, 503	5, 960, 246	7, 112, 616	7, 691, 604
Ponderosa pine.....	1, 822, 460	1, 287, 748	1, 689, 773	1, 806, 220	2, 527, 553	2, 975, 339	3, 307, 655
Cedar.....	149, 976	85, 818	111, 304	139, 807	180, 531	238, 282	257, 474
Redwood.....	210, 866	135, 627	163, 899	282, 149	328, 862	403, 238	436, 231
Cypress.....	331, 891	165, 077	158, 035	178, 977	326, 165	441, 494	429, 138
Other.....	264, 149	122, 031	166, 888	217, 101	332, 497	466, 928	527, 395
Total.....	13, 851, 951	8, 745, 636	11, 898, 873	12, 735, 358	16, 247, 981	20, 241, 731	21, 589, 122
UNIT VALUE—PER THOUSAND BOARD FEET							
Douglas fir.....	\$12. 05	\$10. 61	\$13. 57	\$16. 14	\$15. 97	\$17. 67	\$19. 54
Hemlock.....	14. 13	12. 39	14. 27	17. 70	18. 53	18. 85	21. 83
Spruce.....	23. 00	17. 73	18. 89	21. 75	22. 09	23. 92	25. 73
White pine.....	24. 71	21. 58	21. 45	23. 75	25. 66	26. 28	29. 20
Larch.....	14. 18	10. 76	13. 34	16. 07	16. 90	15. 90	17. 23
Yellow pine.....	16. 99	13. 32	17. 91	21. 64	18. 24	20. 76	22. 18
Ponderosa pine.....	20. 48	16. 88	18. 57	20. 51	20. 40	21. 83	24. 53
Cedar.....	24. 08	24. 55	25. 91	27. 94	29. 33	33. 33	35. 84
Redwood.....	29. 82	24. 33	26. 29	30. 03	29. 77	35. 01	36. 30
Cypress.....	30. 64	24. 62	26. 30	30. 73	29. 51	34. 90	36. 79
Other.....							
Average.....	16. 74	13. 94	16. 94	20. 05	19. 08	21. 03	22. 97

Source: Bureau of the Census.

The number of softwood lumber mills in operation has declined generally from 15,000 in 1929 to 6,000 and 12,000 in 1932 and 1936. The above numbers do not include small mills (3,818 in 1930 with annual production less than 50,000 board feet), but their annual aggregate output is only about two-tenths of 1 percent of domestic production. Approximately one-third of the mills produce more than

three-fourths of the total output.<sup>16</sup> The above data, moreover, relate to individual mills. There are numerous organizations which own large timber holdings and operate several mills. The industry is also organized nationally and regionally.<sup>17</sup> Among the more prominent of the regional associations are those of the Southern pine producers, Pacific northwest producers, Western pine producers, Northern pine mills, Southern cypress mills, and redwood and California pine producers. They are in general well organized for statistical, accounting, freight, tariff, and trade-promotion purposes. The industry was organized under the N. I. R. A. (lumber code approved August 9, 1933) and its code authorized control and allotment of production as well as the establishment of minimum prices; the latter provision, however, was suspended by the N. I. R. A. Board (December 22, 1934).

The two most important lumber-producing regions are in the South (Texas to Virginia) and in the Pacific Northwest (Washington and Oregon). Although the latter region contains only about 30 million acres of forest, it has about one-third of the total mature standing timber of the United States. Under proper forest practices the maximum annual past cut (10,000,000,000 feet) could probably be sustained in the future. In the South heavy cutting, especially of the mature stock, has seriously depleted the forests. Since pine timber grows rapidly, restricted cutting for a relatively short period would restore most of the depleted stands. Conservation of softwood timber is related to import trade restriction, but the relationship is not entirely clear. Restriction of imports and high prices may induce some producers to be more selective and careful in their logging practices, whereas the opposite conditions might force rapid and wasteful exploitation in order for some producers at least for a short time to remain solvent. High prices, however, in the absence of private or public control are usually associated with increased production and depletion of resources. Probably the most practical solution of this problem is to establish public standards for forest utilization and then adjust trade policy to fit these needs as well as the needs of consumers.

Lumber is sold on the basis of grades, i. e., according to dimensions and defects. The better grades occur in the outer portion of the log and the low grades are concentrated toward the center. Ordinarily the smaller logs yield the highest percentages of low grades. The disposal of low-grade stock is one of the outstanding problems of the American industry. Baltic producers of pine and spruce and Canadian producers supply the United Kingdom and other markets with the lower grades. One outlet for domestic producers of the lower grades is in the manufacture of boxes, crates, etc. About 70 percent, however, of the domestic production of softwood lumber is used for building and construction purposes.

#### 4. IMPORTS OF SOFTWOOD LUMBER

Imports of softwood lumber decreased from 1,869 million board feet (about 6 percent of domestic production) in 1923 to a depression

<sup>16</sup> Of the total number of mills reporting to the Census of 1932, about 47 percent (251 mills) produced 59 percent of the total output.

<sup>17</sup> Certain branches of the industry are also organized for export purposes. The Douglas Fir Export Co., for example (a Webb-Pomerene organization) represents 61 West coast sawmills. There is also a redwood association.

low of 244 million board feet (2 percent of domestic production) in 1934 (table 26). The decreased ratio of imports to domestic production for the years 1932-35 inclusive is partly to be accounted for by the combined import charge of \$4. A comparison of the same ratio for 1929 and 1931 indicates that the tariff of \$1 had no appreciable effect on imports. Imports in 1930 (not shown in table 26) for January 1 to June 17 (free of duty) as compared with the rest of the year (duty of \$1) showed little change on a quantity basis.<sup>18</sup> Imports in 1932, however, for January 1 to June 20 (duty of \$1) as compared with the rest of the year (import charge of \$4) showed a substantial drop on a quantity and value basis.<sup>19</sup> Improved business conditions in the United States and the reduction of the import charge to \$2 in the first Canadian agreement account for the increased ratio of imports to domestic production for the years 1936 and 1937. Canada in recent years has supplied about 90 percent of the imports. Imports in 1939 totaled 606 million feet, an amount less than 6 percent in excess of imports in 1936 and 1937, most of it occurring in the last 6 months when the European war disrupted normal relationships (table 27).

TABLE 26.—*Sawed softwood lumber and timber: Comparison of United States production, imports, and exports*

Year	Production	Imports	Exports	Ratio to domestic production	
				Imports	Exports
	<i>Million board feet</i>	<i>Million board feet</i>	<i>Million board feet</i>	<i>Percent</i>	<i>Percent</i>
1919.....	27,407	1,238	1,112	5	4
1923.....	30,904	1,869	2,063	6	7
1925.....	31,710	1,736	2,142	6	7
1927.....	28,443	1,634	2,546	6	9
1929.....	29,813	1,419	2,625	5	9
1931.....	13,852	702	1,330	5	10
1932.....	8,746	353	899	4	10
1933.....	11,899	311	982	3	8
1934.....	12,735	244	1,055	2	8
1935.....	16,248	380	995	2	6
1936.....	20,242	570	939	3	5
1937.....	21,589	573	1,033	3	5

Source: Department of Commerce statistics.

Usually more than half of the imports consist of spruce and pine (quantity and value) which are produced chiefly in the eastern part of Canada (table 27). Spruce is the main item; imports of larch are negligible. The increase in imports of spruce and pine for the first 6 months of 1939 is due largely to increases in imports of Western white spruce which is subject to, along with Northern white pine and Norway pine, the duty of 50 cents and exempt of the excise tax since July 1, 1938.

Imports of fir and hemlock decreased drastically during the years 1932-35 inclusive—the period of depression and high import charges. Douglas fir from British Columbia is the main item. Although imports show a substantial increase for the past 6 months of 1939 as compared with the same period of 1938, they are not likely to exceed

<sup>18</sup> Imports in 1930 for January 1 to June 17 amounted to 584,000,000 feet, valued at about \$13,500,000; for June 18 to December 31 they amounted to 564,500,000 board feet, valued at about \$12,500,000.

<sup>19</sup> Imports in 1932 for January 1 to June 20 were 252,000,000 board feet, valued at about \$4,750,000; for June 21 to December 31 they were 101,000,000 board feet, valued at about \$1,750,000.

250,000,000 board feet for the year which was the tariff quota in the first Canadian agreement (1936-38 inclusive).

TABLE 27.—*Sawed softwood lumber and timber: United States imports for consumption by principal species, 1931-39*

Year	Fir and hemlock	Spruce, pine, and larch	Cedar and other softwoods	Total imports	
	<i>Board feet</i>	<i>Board feet</i>	<i>Board feet</i>	<i>Board feet</i>	
1931.....	292,000,000	382,000,000	28,000,000	702,000,000	\$14,000,000
1932.....	73,000,000	265,000,000	16,000,000	354,000,000	7,000,000
1933.....	25,000,000	280,000,000	5,000,000	310,000,000	7,000,000
1934.....	5,000,000	234,000,000	5,000,000	244,000,000	6,000,000
1935.....	78,000,000	284,000,000	18,000,000	380,000,000	10,000,000
1936.....	151,000,000	398,000,000	22,000,000	571,000,000	13,000,000
1937.....	142,000,000	392,000,000	38,000,000	572,000,000	15,000,000
1938 <sup>1</sup> .....	169,000,000	253,000,000	36,000,000	458,000,000	11,000,000
1938 (first 6 months) <sup>1</sup> .....	80,000,000	100,000,000	19,000,000	199,000,000	5,000,000
1939 (first 6 months) <sup>1</sup> .....	105,000,000	152,000,000	20,000,000	277,000,000	6,000,000

<sup>1</sup> Preliminary.

Source: Compiled from official statistics of the U. S. Department of Commerce.

Imports of cedar and other softwoods consist mainly of cedar. They have been subject to the import charge of \$1.50 since 1936. Nevertheless, imports have increased substantially in recent years as compared with 1931 when they were free of duty. The period of low imports, 1932-35 inclusive, is the period (except for the first part of 1932) when the \$3 import charge applied.

Imports and domestic output of softwood lumber are consumed largely in the northeastern part of the United States. Transportation costs constitute an important share of total delivered costs. Shipments from British Columbia by water to North Atlantic ports are largely by irregular service and are probably lower on the average than the domestic conference rates. Producers of softwood lumber in eastern Canada have some transportation cost advantage over domestic producers in the South and West on shipments to the northeastern part of the United States.

## 5. EXPORTS OF SOFTWOOD LUMBER, UNITED STATES

Exports of softwood lumber from the United States averaged about 2,500,000,000 board feet annually from 1925 to 1929 (table 26). A depression low of 899,000,000 feet was reached in 1932. Principal species exported are Douglas fir, southern pine, soft pines, western hemlock, cedar, and redwood. The outstanding markets have been Japan, China, Argentina, the United Kingdom, the Netherlands, and Italy. On the basis of value of exports the United Kingdom has been the most important market since 1933 for the softwood lumber exports of the United States.

Softwood lumber exports of the United States to the United Kingdom declined steadily between 1929 and 1932 (85,000,000 feet valued at \$2,250,000 in 1932). They recovered slightly in 1933 and 1934, but the recovery was considerably less than the increase in exports of Canada to the United Kingdom (tables 28 and 29). The exports of the United States to the United Kingdom were formerly much larger than those of Canada, but the preferential tariffs in 1932 reversed the situation. In 1933 Canadian exports to the United Kingdom



were four times as large as those of the United States and a further increase occurred in 1934. Exports from the United States, however, for the first 6 months of 1939 as compared with the same period of 1938 indicate a slight improvement in total exports, but a relatively greater improvement in exports to the United Kingdom.

TABLE 28.—*Sawed softwood lumber and timber: United States total exports and exports to the United Kingdom, 1933-39*

Year	Total exports		Exports to the United Kingdom	
	<i>Board feet</i>		<i>Board feet</i>	
1933	982,000,000	\$19,654,000	95,000,000	\$2,800,000
1934	1,055,000,000	27,718,000	82,000,000	3,296,000
1935	995,000,000	26,209,000	85,000,000	3,539,000
1936	939,000,000	27,318,000	87,000,000	4,001,000
1937	1,033,000,000	33,709,000	111,000,000	4,987,000
1938 <sup>1</sup>	684,000,000	22,749,000	67,000,000	3,301,000
1938 (first 6 months) <sup>1</sup>	354,000,000	11,673,000	34,000,000	1,624,000
1939 (first 6 months) <sup>1</sup>	364,000,000	11,867,000	51,000,000	2,418,000

<sup>1</sup> Preliminary.

Source: Compiled from official statistics of the U. S. Department of Commerce.

## 6. SOFTWOOD LUMBER: CANADIAN EXPORTS

Although the Canadian production of softwood lumber is much smaller than that of the United States, it is of particular importance to the American industry because a large part of the output is exported. The kinds of lumber manufactured in Canada are similar to those of the United States, though competition is largely centered about Douglas fir. Canadian production averaged about 4,000,000,000 board feet annually from 1928 to 1930, and about 2,000,000,000 from 1931 to 1935 which is equivalent to about 15 percent of the average annual production of the United States in both periods. A depression low of 1,700,000,000 feet was reached in 1932; subsequently output increased to 3,200,000,000 feet in 1936.

Approximately 50 percent of the Canadian output is exported. Douglas fir, spruce, hemlock, cedar, and pine are the principal export items. Although exports declined sharply following 1929, they have recovered since 1932 to almost the predepression level. Prior to 1932 over one-half of the exports were to the United States, but in more recent years the proportion has been nearer one-fourth. The United Kingdom now receives about half the Canadian exports (table 29). Preferential tariffs in British Empire countries have been of substantial benefit to Canadian exporters, especially to those exporting Douglas fir, and are largely responsible for the shifts in the relative importance of the several Canadian export markets. Exports from Canada for the first 6 months of 1939 as compared with the same period of 1938 indicate a substantial improvement in total exports which was confined primarily to, and was shared about equally in, the markets of the United Kingdom and the United States.



TABLE 29.—*Sawed softwood lumber and timber: Canadian total exports and exports to the United Kingdom and the United States, 1933-39*

[Values in Canadian dollars]

Year	Total exports		Exports to the United Kingdom		Exports to the United States	
	<i>Board feet</i>		<i>Board feet</i>		<i>Board feet</i>	
1933.....	1,067,000,000	\$16,665,000	438,000,000	\$6,708,000	273,000,000	\$5,650,000
1934.....	1,402,000,000	24,780,000	788,000,000	13,798,000	219,000,000	5,337,000
1935.....	1,325,000,000	24,083,000	650,000,000	11,425,000	331,000,000	7,595,000
1936.....	1,745,000,000	34,706,000	888,000,000	17,259,000	489,000,000	11,355,000
1937.....	1,817,000,000	41,772,000	965,000,000	20,859,000	484,000,000	13,253,000
1938.....	1,658,000,000	33,896,000	921,000,000	17,700,000	420,000,000	10,351,000
1938 (first 6 months).....	768,000,000	15,478,000	425,000,000	7,819,000	176,000,000	4,399,000
1939 (first 6 months).....	945,000,000	19,273,000	499,000,000	9,690,000	258,000,000	6,236,000

Source: Compiled from official trade statistics of Canada.

## 7. TRIANGULAR SOFTWOOD LUMBER TRADE BALANCE, 1939

Total exports of softwood lumber from the United States increased in quantity 10,000,000 board feet and in value \$194,000 for the first 6 months of 1939 as compared with the same period of 1938. A similar comparison of exports to the United Kingdom and to other countries indicates for the former an increase of 17,000,000 board feet and of \$794,000; for the latter a decrease of 7,000,000 board feet and of \$600,000. Apparently the trade agreement with the United Kingdom improved the export trade of the United States in softwood lumber to the United Kingdom, but the improvement was partially offset by decreased exports to other foreign markets. War conditions may alter the situation.<sup>20</sup>

Canadian total exports, on the other hand, increased during the same period 177,000,000 board feet and \$3,795,000. A similar comparison of Canadian exports to the United Kingdom, to the United States, and to other countries shows that exports to the United Kingdom increased 74,000,000 board feet and \$1,871,000; exports to the United States increased 82,000,000 board feet and \$1,837,000; and exports to other countries increased 21,000,000 board feet and \$87,000. Although the preferential duty of the United Kingdom on softwood lumber in favor of Canada and against the United States was partially reduced (effective January 1, 1939), Canada apparently is able not only to hold but also to increase her exports to the United Kingdom substantially more than the United States. At the same time Canada increased substantially her exports to the United States as well as to other countries. For the very brief period analyzed here the United States under the recent trade agreements with the United Kingdom and Canada did not experience an increase in softwood lumber imports from Canada which was approximately offset by increased American exports to the United Kingdom and to other

<sup>20</sup> For the year 1939 as a whole compared with 1938, all exports increased 95 percent while that of Douglas fir and spruce combined increased 186 percent and exports of other softwoods increased 23 percent. Spruce is, of course, used in airplanes.

countries, but an increase in imports from Canada which was accompanied by a decrease in American exports to other countries in competition with Canadian exports, and by only a slight increase in American exports to the United Kingdom (17,000,000 feet and \$794,000) as compared with the increase in Canadian exports to the same market (74,000,000 feet and \$1,871,000). A similar comparison of domestic shipments in the American market indicates an increase of 1,500,000,000 board feet.<sup>21</sup>

#### 8. SUMMARY STATEMENTS

(a) The foregoing analysis is an attempt to evaluate the immediate and direct effects of the recent changes in the treatment of softwood lumber imports and exports. Related, but remote and indirect, effects are not considered because they cannot be accurately allocated, and consequently their consideration involves an evaluation of the trade-agreements program as a whole. The latter evaluation is extremely difficult to make because other factors, such as general business fluctuations and war conditions, affect trade as well as tariff changes. The marked decline, for example, in softwood lumber imports in 1932 and 1933 occurred when import charges were increased, but economic conditions were already on the decline. In part the failure of American softwood lumber exports to increase in 1939 to countries other than the United Kingdom was due to war conditions in markets (e. g., China) which have been supplied mainly by the United States.

(b) From the tariff history of the commodity under review emerges an important feature of tariff development, namely, the tendency for moderate import charges to become highly restrictive which in turn is likely to provoke retaliation from other countries. A bargaining procedure of reciprocal adjustment is the practical way in which to meet this problem.

(c) With regard to the immediate and direct effects of the recent changes in the treatment of softwood lumber imports, they are definitely unfavorable for the American industry. The triangular softwood lumber trade balance in the first 6 months of 1939 moved substantially against the United States as compared with Canada. This adverse effect, however, is small relative to the increase of 1,500,000,000 board feet in domestic shipments. An adjustment of transportation rates rather than tariff rates seems to be the more appropriate way in which to give the domestic industry some immediate relief. One apprehension, however, does not seem justified, namely, that the imports of Douglas fir and hemlock will exceed the former quota limitations.

(d) Only rough estimates can be made on the basis of the brief experience under the new trade agreements with regard to future changes in the softwood lumber trade. The immediate reduction, however, of preferential duties by the United Kingdom probably are not extensive enough to improve appreciably American exports. The reduction applies primarily to that portion of the softwood lumber trade, the higher grades, which the American exporters were able to

<sup>21</sup> Domestic shipments of softwood lumber for the first 6 months of 1938 amounted to 7,891,000,000 board feet; for the same period of 1939 they were 9,386,000,000 board feet. Data compiled from Survey of Current Business, U. S. Department of Commerce.

supply prior to 1939. If the American excise tax on lumber were allowed to expire in 1941 (war conditions excluded) and the provisional reduction of British preferential duties were to become effective, probably no substantial increase in American exports would take place. The factors which prompt this statement are: First, the proximity of the Baltic producers to the United Kingdom and the continuation of considerable preferential treatment for lower grades of lumber exported from Canada; secondly, the long-run trend of softwood lumber production in the United States is downward and past levels could be sustained only on the basis of large additional expense for forest maintenance; and thirdly, foreign trade when once lost is difficult to regain.

(e) The elimination, on the other hand, of the American excise tax on lumber and the continuation of the 50-cent duty which are the conditions for the introduction of the British provisional duties would not fill the American market with a log-jam of Canadian softwood lumber. Imports would probably not exceed 1,000,000,000 board feet annually. This rough estimate is based on the following factors: First, Canadian production is not large compared with the production of the United States, is not unlimited in terms of potential lumber resources, and is not exempt from a long-run downward trend similar to that of the United States; secondly, as long as Canadian producers retain some preferential treatment in the United Kingdom they are not likely to divert a substantial volume of their export trade to the United States where American competition would be more effective than in the United Kingdom; and thirdly, as Canadian exports increased to the United States they would be met and gradually stopped by lower prices of the more efficient of the American mills.

(f) The market for any commodity in a system of free private enterprise is not a fixed quota, but is subject to many changes. New substitutes may seriously alter the amounts of a given commodity which have been customarily sold. Equally important, if not more so, are the alterations in markets which are connected with periods of general prosperity and depression. The statistical data of the softwood lumber industry presented above reveal in a striking fashion the latter type of market changes. Since the building and construction industry which fluctuates violently with changes in general business conditions is the main outlet for the softwood lumber industry, the market variations for the latter are not an unexpected fact. Domestic producers and foreign producers are not competing for a share of a fixed market in which more for one necessarily means less for all others, but for a share in a market in which more for one may mean more for all others. To the extent, then, that the trade-agreements programs now and in the future contributes to increased domestic and foreign trade, the American softwood lumber industry is likely to find itself favored by the latter situation.



## CHAPTER VII

### CONSUMERS' COST FROM IMPORT RESTRICTIONS

#### SUGAR AND RAYON YARN

##### 1. PROBLEM OF ESTIMATING CONSUMERS' COST

Tariffs which effectively restrict foreign selling in the domestic market add to consumers' cost of living. Under such conditions domestic prices relative to the price of imports without restrictions are higher. In some instances the restriction increases consumers' cost, but the additional cost may constitute revenue for the Federal Government. The import duties then represent a type of taxation on sales or consumption. If a tariff were levied on coffee, for example, consumers would pay more for coffee and the additional payment would approximately equal the revenue collected by the Government. Since there is no domestic production of coffee, and a tariff is not likely to foster its cultivation, domestic consumption would continue to be supplied by imports.

Restrictive tariffs and quotas, however, are frequently imposed to protect domestic production. The restriction increases consumers' cost, but the additional cost may contribute very little governmental revenue. If the protected domestic production supplies practically all of the domestic consumption, governmental revenue from the tariff on imports is negligible. The difference in price between the domestic product and the imported product, exclusive of the duty, or between the domestic price and the price in a nonrestricted market, measures approximately the additional consumers' cost which in this case is paid to domestic producers and represents a form of subsidy.

Any calculation of the consumers' cost of a protective tariff must be a rough estimate. A brief notation of several factors involved in the calculation indicates its tentative character. The price differential between domestic and imported products is probably the most satisfactory approximation. It is based, however, on the assumption that in the absence of a tariff the price of imports would remain the same and would be the prevailing price throughout the domestic market. Because of probable changes in costs of producing additional imports, shifts in demand, and imperfect marketing conditions, the price of imports would not remain exactly at the same level. The accuracy, moreover, of the calculation depends in part on the similarity of the imported product to the domestic product. Unless they are homogeneous or nearly so, the price differential loses its significance, as a measure of consumers' cost. In order to meet the requirement of homogeneity wholesale prices are usually the most satisfactory. Their use, however, excludes the probable pyramiding of the wholesale price differential as the product passes through one or more dealers to the final consumer.



Because of these difficulties an attempt to calculate consumers' cost for most of the restrictive duties mentioned in this study would be futile and misleading. Only two cases will be examined. The protection of domestic sugar production is the most suitable case for an estimate of consumers' cost. An analysis of the sugar situation, subject to the above qualifications, is given below. It is followed by a brief examination of the price differential for rayon yarn.

## 2. SUGAR: PRODUCTION, IMPORTS, AND EXPORTS

Prior to 1890 the duty on raw sugar was primarily a source of Federal revenue. Approximately 85 percent of domestic consumption was supplied by dutiable imports. During the following five decades the percent of domestic consumption supplied by dutiable imports declined substantially and the duty, supplemented later by quotas, became highly protective. In 1929, for example, about 52 percent of domestic consumption was supplied by dutiable imports which were almost entirely from Cuba.<sup>1</sup> The trend was more pronounced in 1933. In that year dutiable imports supplied only 24.5 percent of domestic consumption.<sup>2</sup>

The quota system under the Jones-Costigan Act (continued under the Sugar Act of 1937) was established in 1934. Under this system the domestic areas, continental and offshore, retained the gains made during the period 1929-33; the share of the Philippines declined; and that of Cuba increased. In 1938 dutiable imports accounted for about 29 percent of domestic consumption.<sup>3</sup> This percentage remained approximately the same in 1939.

Exports of sugar from the United States are negligible. They consist almost entirely of imported sugar refined in the United States and exported with benefit of drawback, or of sugar imported and refined in bond. Domestically produced sugar is not exported because domestic prices, influenced first by the tariff and later by the quota system, have regularly been higher than world sugar prices. United States production, imports, and exports, for recent years are given in table 30 which has been compiled by the United States Tariff Commission.

TABLE 30.—*Sugar: United States production, imports, and exports, in specified years, 1929-39*

[Quantity in 1,000 short tons]<sup>1</sup>

	1929	1931	1933	1937	1938	1939
Production in continental United States:						
Beet sugar.....	1, 018	1, 156	1, 642	1, 288	1, 685	1, 607
Cane sugar.....	218	184	250	462	583	511
Total.....	1, 236	1, 340	1, 892	1, 750	2, 268	2, 118

<sup>1</sup> The continental beet-sugar production is reported as chiefly refined and the cane sugar in equivalent 96° raw; the shipments from offshore areas and the imports are in the form as imported.

<sup>2</sup> In 1929 domestic continental production supplied 18 percent of domestic consumption; domestic offshore areas which are part of the United States customs area, principally Hawaii and Puerto Rico, supplied 20 percent; and the Philippines (imports free of duty) supplied 10 percent. The percentages are based on domestic production and imports for consumption, i. e., apparent consumption. These statistics and similar data which will appear later are from a report of the United States Tariff Commission, Sugar and the Reciprocal Trade Agreements, April 1940.

<sup>3</sup> Cuba supplied about 24 percent and other foreign countries the small remainder. Domestic continental production supplied 29 percent; domestic off-shore areas, 27.5 percent; and the Philippines 19 percent.

<sup>4</sup> Cuba supplied about 26.9 percent and other foreign countries 2.1 percent. Domestic continental production accounted for 32.3 percent of domestic consumption; domestic offshore areas, 25.1 percent; and the Philippines 13.6 percent.

TABLE 30.—*Sugar: United States production, imports, and exports, in specified years, 1929-39—Continued*

[Quantity in 1,000 short tons]

	1929	1931	1933	1937	1938	1939
Shipments from offshore areas to continental United States:						
Hawaii.....	882	968	1,018	928	892	934
Puerto Rico.....	507	758	762	910	854	918
Virgin Islands.....	3	2	5	8	4	6
Total.....	1,393	1,727	1,784	1,845	1,751	1,858
Total supply for continental United States of domestic origin.....	2,629	3,067	3,676	5,295	4,019	3,976
Imports into United States customs area <sup>2</sup> from:						
Philippines (free of duty).....	711	818	1,230	965	952	951
Cuba (preferential duty).....	3,650	2,409	1,552	2,089	1,879	1,872
All other countries (full duty).....	16	31	48	143	144	79
Total imports.....	4,377	3,257	2,830	3,197	2,974	2,902
Exports from United States customs area <sup>2</sup> .....	103	53	50	70	62	125

<sup>2</sup> The customs area includes Hawaii and Puerto Rico but their trade in sugar, except with continental United States, is insignificant.

Sources: Continental production, U. S. Department of Agriculture; Offshore shipments, official statistics of the U. S. Department of Commerce; Imports and exports, Foreign Commerce and Navigation of the United States.

### 3. SUGAR: RECENT DUTIES AND QUOTAS

In recent years until the imposition of quotas, the exclusive preferential duty on imports of sugar from Cuba accounted largely for the spread between domestic prices and prices of sugar in the world market. Cuba exported sugar to both the New York and London markets. Since imports of sugar from foreign countries, other than Cuba, were assessed a higher duty, Cuba supplied practically all the dutiable imports of sugar. The price of sugar in New York exceeded the price in London by approximately the amount of the Cuban preferential duty. Any tendency for the difference in prices to approach the amount of the full-duty rate, which would have permitted increased dutiable imports from other foreign countries, was checked by increased imports from Cuba.

Tariff rates on sugar since 1913 are given in table 31. The reduction of duties by Presidential proclamation, effective June 8, 1934, was accompanied by the establishment of quotas (Jones-Costigan Sugar Act) which limited imports of sugar and sales of domestic sugar (continental and offshore) in the United States. Processing taxes and import compensating taxes were also imposed on the basis of one-half cent per pound for 96° sugar. These taxes were discontinued following the decision of the Supreme Court on January 6, 1936, which invalidated the processing-tax provisions of the Agricultural Adjustment Act. The quota system was extended for the calendar year 1937 by joint resolution of Congress (June 19, 1936) and until December 31, 1940, by the Sugar Act of 1937. The Sugar Act, effective September 1, 1937, imposed an excise tax on manufactured sugar produced in the United States and an import compensating tax on manufactured sugar imported into the United States. The rate of tax is the same as the previous one, namely, one-half cent per pound. The taxes apply equally to all sugars regardless of their source.

TABLE 31.—*Sugar: United States tariff rates since 1913*

[Cents per pound]

	Rates of duty on sugar testing 96° by the polariscope	
	Rate on imports from Cuba	General tariff rate
Act of 1913.....	1.0048	1.256
Act of 1921.....	1.6	2.0
Act of 1922.....	1.7648	2.206
Act of 1930.....	2.0	2.5
Presidential proclamation (effective June 8, 1934).....	1.5	1.875
Trade agreement with Cuba (effective Sept. 3, 1934).....	.9	1.875
Presidential proclamation (effective Sept. 12, 1939).....	1.5	1.875
Supplementary agreement with Cuba (effective Dec. 27, 1939).....	.9	1.875

Although the trade agreement with Cuba (1934) reduced its preferential rate to 0.9 cent per pound, the difference between prices of sugar in New York and London was largely the result of quotas which limited the supply in the domestic market. The maintenance of the 0.9-cent preferential duty was made contingent upon the continuance of a quota system. The quotas were suspended during the period September 11, 1939, to January 1, 1940, because of the high prices which resulted from the excessive domestic purchases following the declaration of war in Europe. During approximately the same period (September 12 to December 27, 1939) the preagreement preferential rate of 1.5 cents a pound was imposed on sugar imported from Cuba. By the terms of the supplementary trade agreement with Cuba the rate of duty on Cuban sugar was again to become 0.9 cent a pound when and if the President should give public notice of the restoration of the quotas. The notice was given on December 27, 1939, and the 0.9-cent preferential duty became effective.

#### 4. CONSUMERS' COST OF RESTRICTIONS ON SUGAR IMPORTS

The estimated cost to consumers in recent years because of the protection of domestic sugar production is given in table 32. For the 8 years examined total consumers' cost amounted to \$2,189,062,203. The average annual cost was \$273,632,775. The average annual cost for the three pre-quota years was \$272,472,349; for the 5 years of the quota system, \$274,329,031. Since net customs revenues were larger during the pre-quota period, the average annual cost to consumers as taxpayers was less in that period, namely, \$178,921,349 as compared with \$215,983,150 in the five quota years.

Although consumers paid the larger bill, a minor part constituted governmental revenues. The major portion of the bill was an indirect subsidy in the form of higher prices which was paid to domestic producers of sugar. For the years studied, the highest costs to consumers and to consumers as taxpayers were incurred in 1936, namely, \$345,406,330 and \$309,185,330 respectively. The lowest cost to consumers was in 1939, but the lowest cost to consumers as taxpayers was in 1929.

TABLE 32.—Consumers' costs of restrictions on sugar imports in specified years, 1929 to 1939

Year	Domestic consumption		Preferential duty per pound raw 96-degree sugar	Prices			Spread between London C-F and New York including duty	Cost of import restrictions to consumers in United States	Net customs revenues <sup>2</sup>	Cost to United States consumers as taxpayers
	Tons refined	Pounds raw <sup>1</sup>		C-F London, New York basis	C-F New York	New York, including duty				
1929 <sup>3</sup>	6,508,298	13,927,757,720	\$0.0176	\$0.0191	\$0.02	\$0.0376	\$0.0185	\$257,663,517	\$123,757,000	\$133,906,517
1931 <sup>3</sup>	6,132,728	13,122,967,920	.02	.0125	.0134	.0334	.0209	274,270,029	94,063,000	180,207,029
1933 <sup>3</sup>	5,902,810	12,632,013,400	.02	.0097	.0123	.0323	.0226	285,483,502	62,833,000	222,650,502
1935 <sup>4</sup>	5,986,696	12,798,089,440	.009	.01	.0233	.0323	.0223	285,410,774	31,708,000	253,642,774
1936 <sup>4</sup>	6,184,093	13,233,959,020	.009	.01	.0271	.0361	.0261	345,406,330	36,221,000	309,185,330
1937 <sup>4</sup>	6,373,453	13,039,189,420	.009	.0127	.0255	.0345	.0218	297,334,329	39,564,000	257,770,329
1938 <sup>4</sup>	6,276,537	13,431,789,180	.009	.0114	.0204	.0294	.018	241,772,205	38,028,000	203,744,205
1939 <sup>4</sup>	6,326,335	13,538,356,900	\$ .009	.0146	.0187	.0295	.0149	201,721,517	35,967,000	165,754,517

<sup>1</sup> Refined was changed to raw by using formula of 1.07 pounds of raw = 1 pound refined.<sup>2</sup> Customs revenues include very small amounts, if any, of .5-cent import excise tax collected on refined sugar imported from 1935 to 1939.<sup>3</sup> Nonquota years.<sup>4</sup> Quota year.<sup>5</sup> .015 rate was in effect 106 days between Sept. 12 and Dec. 26, 1939, during which time the quotas were suspended.

Prior to 1935 the cost to consumers from duty restriction of sugar imports was measured largely by the amount of the Cuban preferential duty. Under the quota system, which absolutely limits the supply of sugar for sale in the domestic market, the price differential between the New York and London markets is not determined by the amount of the preferential duty. The difference, for example, between the London and New York sugar prices for the period 1929-35 was very close to the amount of the preferential duty. The fact that this differential was not exactly equal to the duty may be attributed largely to imperfections in the sugar markets.

Slight deviations from the duty-spread in prices between New York and London markets were not corrected immediately, and hence the yearly averages of the New York prices, excluding the preferential duty, were not identical with the London averages. In 1929 and 1931 the difference between these two prices, however, was less than one-tenth of a cent per pound. On the other hand, in 1935 (the first full year under the quota system) the difference between the London and New York C and F prices no longer corresponded to the amount of the preferential duty. In the first three full years under quotas, the New York C and F prices were over 100 percent higher than the London prices. This price differential, however, has been less in the last few years. Since 1936 the New York sugar price has been falling and the London price has been rising, which may indicate a trend toward the former approximations which existed before the quotas were instituted.

The above trend in prices indicates that the cost of sugar import restrictions to the consumers has been about the same under the quota system as under the nonquota arrangement. A comparison, for example, of the years 1933 and 1935 shows that the New York price was 3.23 cents per pound in both years even though the preferential duty on Cuban imports was 2 cents per pound in 1933 without quota restrictions and was 0.9 cent per pound in 1935 with quota restrictions. Because of this coincidence, the reduction in the preferential duty represented a gain in that year to Cuban producers. Since the above price relationship has not prevailed for recent years, the reduction in the preferential duty under the quota system cannot be taken as an exact measure of the net gain to Cuban producers.<sup>4</sup>

In the calculation of consumers' cost resulting from the restrictions on imports of sugar, the domestic manufacturing tax and the import excise tax on refined sugar of 0.5 cent per pound was not included. The taxes were levied uniformly upon both domestic and imported sugar. They may constitute a part of the cost of sugar to the con-

<sup>4</sup> In judging the Cuban gain from the quota arrangement with lower preferential rates, at least 3 factors must be taken into consideration, namely, the London or world price for sugar, the price paid for Cuban sugar in the United States, and the amount of sugar which Cuba was able to sell in the United States. It is obvious that the price advantage to the Cubans under the quota system would be offset greatly if the amount of sugar sold were relatively small. Since the first quota year (1935) the United States has been taking a gradually decreasing percentage of Cuba's total output. During the last 3 years of the nonquota period the United States received about 68 percent of Cuban production, while during the last 3 years of the study (1937-39) the United States received 57 percent of the Cuban supply. Since Cuban sales are restricted on the world market as well as the United States market, the Cubans face the problem of restricting production if they are to continue to profit by any price differential that exists between the world price and the New York price.

In table 33 the results of a quantitative study of Cuban gains from the quota system are indicated. Taking 1933 (last nonquota year) as a base year, the advantage which the Cubans had selling in the New York market was \$0.0026 per pound. They shipped 3,103,718,000 pounds of sugar into the United States and



sumer<sup>5</sup> but they are not a cost resulting from import restrictions which operate in favor of domestic production.

From the dollar cost to consumers of restrictions on imports of sugar was deducted the net customs revenues in order to obtain the net cost to consumers viewed as taxpayers. The net cost calculation is not an attempt to measure the cost of restrictions on sugar imports to the economy as a whole, such as the loss of export markets because of small sugar imports, inefficient allocation of domestic factors of production, restricted consumption of sugar, and the resultant inequalities of taxation from an ability-to-pay point of view of a commodity tax on sugar. Although an estimated increase in population of about 10,000,000 occurred between 1930 and 1940, the amount of sugar consumed in the United States was less in 1939 than it was in 1929. Since the years of greatest sugar consumption in the United States were 1929, 1937, and 1939, while the smallest amounts were consumed in 1932 and 1933, there seems to be some correlation between incomes and sugar consumption. The decline in incomes relative to the prices of sugar, as well as changes in dietary habits of the population, seem to account for the trend in the consumption of sugar.

Although the cost to the consumer of the import restrictions on sugar is substantial, the cost is a conservative estimate. The pyramiding of the price differential, or consumers' cost, in the wholesale price of sugar as it moves through trade channels to the consumer, is difficult to estimate and is not included in the calculations. On the other hand, if the import restriction were removed, the world price of sugar might be slightly higher. Because of the restrictions on

netted a gain of \$8,069,666 over the amount they would have received had they sold that quantity in the world market instead.

TABLE 33.—*Cuban gains under sugar quotas*

Year	Cuban sales to United States (pounds)	Excess of New York price over world price	Cuban gains from sales in United States	Gains above 1933 gains	Gains above 1933 on basis of 1933 sales	Duty differential between 1933 and subsequent years on basis of sales in 1933
1933-----	3, 103, 718, 000	\$0.0026	\$8, 069, 666			
1935-----	3, 990, 888, 000	.0133	53, 078, 810	\$45, 009, 144	\$33, 209, 782	\$34, 140, 898
1936-----	3, 850, 300, 000	.0171	65, 840, 130	57, 770, 464	45, 003, 911	34, 140, 898
1937-----	4, 178, 586, 000	.0128	53, 485, 900	45, 416, 234	31, 657, 923	34, 140, 898
1938-----	3, 757, 876, 000	.009	33, 840, 884	25, 771, 218	19, 863, 795	34, 140, 898
1939-----	3, 744, 620, 000	.0041	15, 352, 942	7, 283, 276	4, 655, 557	34, 140, 898

Source: Statistics on Sugar, U. S. Tariff Commission, 1940.

In 1935 (first full quota year) the advantage which the Cubans had selling in the New York market was \$0.0133 per pound or \$3,078,810. This was a gain of \$45,009,144 over 1933 in this respect. However, since they also sold more sugar in the United States in 1935 than in 1933, the comparison between the gain to the Cubans from the quota restriction can be seen more clearly if it is assumed that the same amount of sugar was sold by Cuba in 1935 as in 1933. In such case, the gain would have been \$33,209,782. It is mere coincidence that this is so close to the amount of the duty differential on that number of pounds of sugar. There is no necessary relationship between the price of sugar in the United States and the amount of the duty on that sugar, since the price, at least so far as the supply side is concerned, is determined by the amount of sugar allowed on the market under the quota restrictions.

As can be seen from table 33, the Cubans have gained under the quota system every year since it has been instituted as compared with their gains before the quota system. These relative gains have fluctuated from a high of over \$57,000,000 in 1936 to a low of \$7,000,000 in 1939. This brief study of the Cuban portion of the quota picture shows rather clearly that (1) the Cubans have gained materially from the quota system, (2) the amount of their annual gain is showing a decreasing trend, (3) there is no direct relationship between the amount of that annual gain and the preferential duty rate.

<sup>5</sup> The incidence of the tax is uncertain. It probably is borne in part by the producers of raw sugar products, domestic and Cuban; in part by the refiners, wholesalers, and retailers; and in part by the consumers.

United States imports of sugar, a larger supply is available for the London market which may make the London price slightly lower than would otherwise be the case. A considerable portion, moreover, of the supply now produced in protected United States areas would not be available without restrictions on imports. How much of this reduction in supply from protected areas could be furnished by low-cost production in nonprotected areas is not exactly known. Many of the cane-producing regions, such as Cuba, probably could meet the demand without incurring any substantial increases in costs.

#### 5. RAYON YARN: CONSUMERS' COST OF RESTRICTIONS ON IMPORTS

In recent years the duties on rayon yarn have been very high (in many cases the ad valorem equivalent has been over 100 percent), and imports in comparison with domestic production have been very small (less than one-half of 1 percent). Since 1929 production has increased by more than 100 percent while imports have declined to only a small fraction of their former level.

The Tariff Act of 1913 established a rate of 35 percent on all imports into the United States of rayon yarn. New classifications were set up and rates were increased in the Tariff Act of 1922 and in the Tariff Act of 1930. In the latter act rayon yarn, for purposes of duty assessment, is segregated into two major classifications—yarn having not more than 20 turns twist per inch and yarn having more than 20 turns twist per inch. Each major classification has two subclassifications—single yarn and plied yarn<sup>6</sup>—and each of these may be subdivided into yarn weighing 150 deniers or more and yarn weighing less than 150 deniers.<sup>7</sup>

Paragraph 1301 of the Tariff Act of 1930 provides for ad valorem rates of duty on rayon yarn, the rate increasing as the yarn advances through the various stages of manufacture. In no case, however, may the duty be less than 45 cents per pound if the yarn has no more than 20 turns twist per inch, and 90 cents per pound if the yarn has more than 20 turns twist per inch. If the ad valorem rate (which ranges from 45 to 55 percent) when applied to the invoice value of imported rayon does not equal 45 cents per pound,<sup>8</sup> then the specific rate is applied. Practically all of the imports, except for a few specialties, are dutiable at the specific rate. Moreover, the lower the invoice value (on a per pound basis), the higher will be the ad valorem equivalent of the specific duty. For example, 4,000 pounds of yarn having no more than 20 turns twist per inch and weighing 120 deniers were imported in 1938; the total value was \$1,042, and the unit value was 26 cents per pound. The duty on this yarn was 45 cents per pound, or the equivalent of 173 percent. This is an exceptionally high ad valorem equivalent but the average ad valorem equivalent on total imports of rayon yarn in 1938 was 128 percent.<sup>9</sup>

The production of rayon in the United States has increased from 121,000,000 pounds in 1929 to 258,000,000 pounds in 1938. During

<sup>6</sup> Single yarn is the only type of yarn produced by the rayon industry. Plied and thrown yarns are produced by rayon mills, converters, and throwsters who operate with single yarn as their raw materials. The mills produce both plied and thrown yarns for their own use or for sale; the converters and throwsters produce these yarns either for sale or on contract.

<sup>7</sup> In the rayon industry one denier equals five centigrams per length of 450 meters; consequently, the greater the number of deniers, the heavier and coarser the yarn.

<sup>8</sup> Or 90 cents per pound if the yarn has more than 20 turns twist per inch.

<sup>9</sup> This phenomenon really began in 1936 when imports from Japan became important. In the period from 1931-36 the ad valorem equivalents never reached over 68 percent.

this same period imports declined sharply; they amounted to 15,000,000 pounds in 1929 and to 262,000 pounds in 1938. During the decade 1929-38, domestic production more than doubled, while imports in 1938 were less than 2 percent of the quantity imported in 1929. Since 1932 imports have never amounted to as much as one-half of 1 percent of domestic production; in 1938 they amounted to one-tenth of 1 percent.

It is reported that, except for a few specialties, imports are not used for the production of materials destined for consumption in the United States. This may be attributed principally to the relatively high duties. Imports are used almost entirely in the manufacture of goods produced for export to foreign countries. A draw-back of duties paid on the imported yarn may be claimed when such goods are shipped abroad. In such instances, the amount of duty paid on the imported yarn is a matter of little consequence to the importer.

A comparison of average unit values of imports of yarn with the annual average wholesale prices of similar yarn in the United States gives further evidence of the inability of imported yarns to compete in the United States market. For example, the average wholesale price for domestic viscose yarn weighing 100 deniers in 1938 was 69 cents per pound. The average unit value of similar imported yarn was 37 cents. If the duty of 45 cents per pound is added to the average unit value, the duty-paid value becomes 82 cents per pound exclusive of insurance, freight, and handling charges, and of the importers' mark-up.

Since the duty on rayon yarn is prohibitive and imports are negligible, the differential between domestic prices and prices of imports is not the amount of duty. The differential is estimated by comparing domestic prices and unit values of landed imports excluding the duty. Assuming that the same import values would have prevailed in the absence of any duty and with a large volume of imports, the consumers' cost of tariff protection for the domestic industry is derived from multiplying the quantity of domestic production by the price differential. Since imports of rayon yarn are negligible and are used mainly in articles for export with benefit of drawback for the duty, domestic production approximates domestic consumption and no revenue is deducted from the consumers' cost (table 34).

The calculation of consumers' cost of most products involves almost insuperable difficulties. Some of these are illustrated by rayon yarn. Thus, for example, in the upper half of the table for the group "150 deniers or more" production data include yarn of 150, 200, 300, and 450 deniers and coarser. The coarse yarns all have a considerably lower wholesale price than the 150 deniers, which is used in column 2 for comparison with the landed value of imports. While it is inaccurate to multiply the production figures inclusive of these low-priced coarse yarns by a differential calculated on the price of the 150 deniers alone, unfortunately the import statistics do not separate 150 deniers, but include them in the class "150 deniers or more." In some years, for example, 1937 and 1938, the imports of coarser sizes in excess of 150 deniers are said in the trade to be virtually nil.

Furthermore, the production figures as given in table 34 include acetate yarns. Yet on the basis of certain invoice analyses the imports of acetate yarn seem to be small, if existent. Consequently,

only viscose price quotations were employed in arriving at the price differential between domestic and imported yarn.

Finally the comparison made of the average unit values of imports and the wholesale price of domestic rayon fails to take into consideration certain variables, particularly quality. The Japanese rayon, which constituted 43 percent of imports in 1936, 23 percent in 1937, and 39 percent in 1938, is inferior in quality to the domestic. It is made from a bleached sulphite wood pulp of paper grade whereas the pulp used by the domestic rayon industry is said to be a special rayon grade having an alpha content averaging over 91 percent. High alpha ratios make for a whiter and stronger yarn. So far as is publicly known, the domestic industry uses no paper grades of wood pulp whatsoever.

Remembering these reservations, one may venture the guess that in 1937 and 1938 tariff protection of rayon yarn (principal weights only) may have imposed an additional cost on the consumer of roughly \$110,000,000 to \$140,000,000. The estimated cost applies to 90 percent of the total domestic production in the 2 years. No estimates were made for yarn of 75 denier and finer and of 125 denier which account for the remaining 10 percent of domestic production in the 2-year period. Approximately one-fourth of the total production is by the acetate process. Acetate yarn is slightly higher in price than viscose yarn.

TABLE 34.—*Consumers' cost of duty restrictions on the imports of rayon yarn*  
150 DENIERS OR MORE

Year	Domestic production (pounds)	Domestic price average, wholesale	Average unit value of imports	Import value landed, ex duty <sup>1</sup>	Price differential	Consumers' cost
1937.....	<sup>2</sup> 224,960,000	<sup>3</sup> \$0.62	<sup>4</sup> \$0.31	\$0.34	\$0.28	\$62,988,800
1938.....	<sup>2</sup> 180,337,500	<sup>3</sup> .52	.32	.35	.17	30,657,375

100 DENIERS

1937.....	<sup>2</sup> 58,599,718	<sup>3</sup> \$0.81	\$0.38	\$0.42	\$0.39	\$22,853,890
1938.....	<sup>2</sup> 56,677,500	<sup>3</sup> .69	.37	.40	.29	22,671,000

<sup>1</sup> Import value landed, ex duty, is calculated by adding 10 percent to the unit invoice values as an allowance of freight, insurance, and importers' mark-up.

<sup>2</sup> Census of Manufactures, 1937. The data include viscose cuprammonium and acetate yarn. Total rayon yarn production in 1937 amounted to 321,681,000 pounds.

<sup>3</sup> Prices are for viscose yarn of 150 deniers of first grade.

<sup>4</sup> Unit values are for all sizes 150 deniers or more, and for all grades. Yarn of 150 deniers is not separately reported in import statistics.

<sup>5</sup> Textile Economics Bureau, Inc. The data are estimates and include viscose cuprammonium and acetate yarn. Total rayon yarn production in 1938 amounted to 257,625,000 pounds.

<sup>6</sup> Prices are for viscose yarn.

Because of the lack of satisfactory data, consumers' cost for the protection of rayon production cannot be estimated for earlier years. There is no reason, however, to believe that the costs were less in those years. Since the tariff rates are high enough to be prohibitive, the costs may have been greater in earlier years. This possibility is clearly indicated by the large differential between domestic prices for rayon and the landed import prices excluding duty, and the degree of industrial concentration in the domestic rayon industry. Consumers' costs were probably not only large, but also producers' profits

were quite generous. From the study of the price-duty relationship, there is no doubt that the duty on rayon yarn could be reduced substantially before the domestic producers would need to lower price in order to offset competitive imports. If consumers' cost of import restrictions on rayon yarn is to be reduced significantly, the duty will have to be greatly reduced, or eliminated entirely.

#### 6. SUMMARY

In view of the many intangible and immeasurable factors in market situations, it is exceedingly difficult to translate into dollar values the cost of import restrictions to consumers. Because of these obstacles to exact calculations, only two products were examined for consumer cost estimates. Even though these products, namely sugar and rayon, were relatively quite suitable for such calculations, it was found to be impossible to make highly exact estimates.

The estimates of the costs to the consumers of the protection of the domestic sugar and rayon industries do indicate that substantial burdens were levied on the consumers thereby. In both instances the unit price of the product to United States consumers is considerably higher than the price of the product as offered at the ports of entry. In addition, since both of these domestic industries show a high degree of industrial concentration, a substantial reduction of import restrictions would go far in lessening the burden on consumers and at the same time would promote competition in the domestic market. The estimates in the analysis of these two products are sufficiently exact to disclose the dual role of import restrictions, namely, prices are higher to consumers, and competition is less.





# APPENDIX I

## TABLES OF INDUSTRIAL CONCENTRATION, 1,807 PRODUCTS OF THE CENSUS OF 1937, BY CENSUS GROUP (EXCEPT CLASSES V AND XV), DUTY, STATUS, TARIFF EFFECTS, ETC.

TABLE 1.—Sample of industrial concentration, 1,807 products of the census of 1937, by census groups

Index of concentration	Census products I. Food			Census products II. Textiles		
	Number	Domestic value	Percent	Number	Domestic value	Percent
75 or more <sup>1</sup> .....	30	\$492, 111, 328	9.6	92	\$347, 830, 423	8.5
50 to 74 <sup>2</sup> .....	48	2, 098, 889, 242	41.0	91	634, 984, 731	15.6
49 or less <sup>3</sup> .....	55	2, 522, 321, 695	49.3	91	2, 996, 943, 123	74.0
Data incomplete.....	3	6, 159, 571	.1	16	70, 274, 073	1.9
Total.....	136	5, 119, 481, 836	100.0	290	4, 050, 032, 350	100.0
III. Lumber			IV. Paper			
75 or more <sup>1</sup> .....	39	\$96, 072, 946	14.5	17	\$85, 744, 347	10.3
50 to 74 <sup>2</sup> .....	20	66, 165, 243	10.0	23	271, 849, 515	32.5
49 or less <sup>3</sup> .....	35	472, 337, 634	71.3	23	477, 774, 642	57.2
Data incomplete.....	5	28, 502, 237	4.2			
Total.....	99	663, 078, 060	100.0	63	835, 368, 504	100.0
VI. Chemicals			VII. Petroleum			
75 or more.....	109	\$668, 856, 431	34.4	3	\$42, 683, 976	1.7
50 to 74.....	56	442, 210, 799	22.8	7	211, 601, 893	8.6
49 or less.....	37	698, 288, 095	36.1	7	2, 226, 965, 519	89.7
Data incomplete.....	10	131, 825, 118	6.7	1	1, 015, 991	0
Total.....	212	1, 941, 180, 443	100.0	18	2, 482, 267, 379	100.0
VIII. Rubber			IX. Leather			
75 or more.....	23	\$555, 271, 968	76.2	54	\$119, 613, 701	10.4
50 to 74.....	14	121, 569, 416	16.7	33	217, 047, 039	19.0
49 or less.....	2	52, 204, 659	7.1	24	804, 727, 264	70.4
Data incomplete.....				1	2, 233, 587	.2
Total.....	39	729, 046, 043	100.0	112	1, 143, 621, 591	100.0
X. Stone, clay			XI. Iron-steel			
75 or more.....	89	\$361, 531, 324	33.5	80	\$1, 147, 990, 963	38.0
50 to 74.....	51	228, 877, 191	21.3	57	1, 167, 493, 053	38.7
49 or less.....	42	485, 426, 084	45.2	40	702, 088, 260	23.3
Data incomplete.....						
Total.....	182	1, 075, 834, 599	100.0	177	3, 017, 572, 276	100.0

<sup>1</sup> 4 companies or less supplied 75 percent or more of the total value of each product.

<sup>2</sup> 4 companies supplied from 50 to 74 percent of the total value of each product.

<sup>3</sup> 4 companies supplied 49 percent or less of the total value of each product.

TABLE 1.—*Sample of industrial concentration, 1,807 products of the census of 1937, by census groups—Continued*

Index of concentration	Census products XII. Nonferrous metals			Census products XIII. Machinery		
	Number	Domestic value	Percent	Number	Domestic value	Percent
75 or more.....	25	\$331,083,281	39.8	248	\$1,804,123,037	57.0
50 to 74.....	16	327,949,570	39.4	97	972,061,418	30.6
49 or less.....	14	173,800,412	20.8	19	389,435,472	12.3
Data incomplete.....				1	3,324,522	.1
Total.....	55	832,833,263	100.0	365	3,168,944,449	100.0
	XIV. Transportation			XVI. Miscellaneous		
75 or more.....	2	\$2,848,786,150	100.0	29	\$1,254,458,864	78.5
50 to 74.....				13	42,552,552	2.7
49 or less.....				13	296,111,367	18.5
Data incomplete.....				2	4,523,417	.3
Total.....	2	2,848,786,150	100.0	57	1,597,646,200	100.0

Source: Census of Manufactures, 1937. Temporary National Economic Committee Industrial Concentration Study.

TABLE 2.—*Sample of industrial concentration, 1,807 products of the Census of 1937, by census groups and according to duty status and tariff effects, in 1937*

Duty status	Census products		Restrictive effect of tariffs					
			Insignificant		Moderate		Substantial	
	Value	Per-cent	Value	Per-cent	Value	Per-cent	Value	Per-cent
	I. Food							
60 or more <sup>1</sup> .....	\$922,755,365	18.03	\$143,293,537	15.53	\$114,386,953	12.40	\$665,074,875	72.07
30 to 59 <sup>1</sup> .....	2,659,554,668	51.95	1,427,479,408	53.67	1,201,081,967	45.16	30,993,293	1.17
29 or less <sup>1</sup> .....	1,471,402,788	28.74	128,757,235	8.75	1,334,269,346	90.68	8,376,207	.57
Free.....	57,939,697	1.13						
Data incomplete.....	7,829,318	.15						
Total.....	5,119,481,836	100.00	1,699,530,180		2,649,738,266		704,444,375	
	II. Textiles							
60 or more.....	\$1,096,399,304	27.1	\$300,864,344	27.44	\$45,735,001	4.17	\$749,799,959	68.39
30 to 59.....	2,218,856,832	54.8	788,982,128	35.56	843,961,992	38.03	585,912,712	26.41
29 or less.....	664,502,141	16.4	350,615,970	52.77	180,760,825	27.19	133,125,346	20.04
Free.....								
Data incomplete.....	70,274,473	1.7						
Total.....	4,050,032,350	100.00	1,440,462,442		1,070,457,818		1,468,838,017	
	III. Lumber							
60 or more.....	\$12,712,761	1.9	\$464,498	3.65	\$3,964,580	31.19	\$8,283,683	65.16
30 to 59.....	632,775,215	95.5	589,722,212	93.20	43,053,003	6.80		
29 or less.....								
Free.....								
Data incomplete.....	17,590,084	2.6						
Total.....	663,078,060	100.00	590,186,710		47,017,583		8,283,683	

<sup>1</sup>Ad valorem rates of duty, or equivalent ad valorem rates, 1937.

TABLE 2.—*Sample of industrial concentration, 1,807 products of the census of 1937, by census groups and according to duty status and tariff effects, in 1937—Continued*

Duty status	Census products		Restrictive effect of tariffs					
			Insignificant		Moderate		Substantial	
	Value	Per-cent	Value	Per-cent	Value	Per-cent	Value	Per-cent
IV. Paper								
60 or more.....								
30 to 59.....	\$120, 213, 098	14. 39	\$55, 455, 531	46. 13	\$52, 540, 018	43. 71	\$12, 211, 549	10. 16
29 or less.....	680, 045, 531	81. 41	419, 288, 134	61. 66	107, 032, 806	15. 74	153, 727, 591	22. 6
Free.....	35, 106, 875	4. 2						
Data incomplete.....								
Total.....	835, 368, 504	100. 00	474, 743, 665		159, 578, 824		165, 939, 140	
VI. Chemicals								
60 or more.....	\$213, 210, 252	10. 98			\$5, 249, 277	2. 46	\$207, 960, 975	97. 54
30 to 59.....	274, 465, 703	14. 14	\$6, 826, 215	2. 49	127, 993, 059	46. 63	139, 646, 429	50. 88
29 or less.....	990, 422, 308	51. 02	569, 436, 879	57. 50	420, 985, 429	42. 50		
Free.....	282, 578, 032	14. 56						
Data incomplete.....	180, 504, 148	9. 3						
Total.....	1, 941, 180, 443	100. 00	576, 263, 094		554, 227, 765		347, 607, 404	
VII. Petroleum								
60 or more.....								
30 to 59.....	\$19, 213, 203	0. 78	\$19, 213, 203	100. 00				
29 or less.....	2, 407, 568, 696	96. 99	959, 880, 578	39. 87			\$1, 447, 688, 118	60. 13
Free.....	54, 469, 489	2. 19						
Data incomplete.....	1, 015, 991	. 04						
Total.....	2, 482, 267, 379	100. 00	979, 093, 781				1, 447, 688, 118	
VIII. Rubber								
60 or more.....	\$2, 662, 779	0. 37			\$401, 103	15. 06	\$2, 261, 676	84. 94
30 to 59.....	67, 585, 175	9. 27	\$17, 483, 116	25. 87	32, 059, 905	47. 44	18, 045, 154	26. 69
29 or less.....	639, 060, 561	87. 65	336, 521, 712	52. 5	262, 311, 745	41. 3	40, 227, 104	6. 2
Free.....	19, 737, 528	2. 71						
Data incomplete.....								
Total.....	729, 046, 043	100. 00	354, 004, 828		294, 772, 753		60, 530, 934	
IX. Leather								
60 or more.....								
30 to 59.....	\$23, 464, 177	2. 05	\$21, 404, 435	91. 22	\$2, 059, 742	8. 78		
29 or less.....	1, 117, 923, 827	97. 75	55, 600, 578	4. 97	1, 060, 019, 434	94. 82	\$2, 303, 815	0. 21
Free.....								
Data incomplete.....	2, 233, 587	. 2						
Total.....	1, 143, 621, 591	100. 00	77, 005, 013		1, 062, 079, 176		2, 303, 815	
X. Stone, clay								
60 or more.....	\$197, 785, 487	18. 35	\$47, 612, 859	24. 07	\$141, 977, 700	71. 79	\$8, 194, 928	4. 14
30 to 59.....	386, 919, 342	35. 89	208, 945, 519	54. 00	165, 907, 806	42. 88	12, 066, 017	3. 12
29 or less.....	465, 208, 390	43. 16	184, 423, 692	39. 64	280, 784, 098	60. 36		
Free.....	4, 674, 676	. 43						
Data incomplete.....	21, 246, 704	2. 17						
Total.....	1, 075, 834, 599	100. 00	440, 982, 070		588, 670, 204		20, 260, 945	

TABLE 2.—*Sample of industrial concentration, 1,807 products of the census of 1937, by census groups and according to duty status and tariff effects, in 1937—Continued*

Duty status	Census products		Restrictive effect of tariffs					
			Insignificant		Moderate		Substantial	
	Value	Per-cent	Value	Per-cent	Value	Per-cent	Value	Per-cent
XI. Iron, steel								
60 or more.....	\$34, 677, 059	1. 15	\$34, 677, 059	100. 00	-----	-----	-----	-----
30 to 59.....	945, 773, 272	31. 34	859, 204, 977	90. 85	\$86, 568, 295	9. 15	-----	-----
29 or less.....	2, 021, 112, 430	66. 98	548, 935, 191	27. 16	1, 472, 177, 239	72. 84	-----	-----
Free.....	5, 587, 144	. 18	-----	-----	-----	-----	-----	-----
Data incomplete.....	10, 422, 371	. 35	-----	-----	-----	-----	-----	-----
Total.....	3, 017, 572, 276	100. 00	1, 442, 817, 227	-----	1, 558, 745, 534	-----	-----	-----
XII. Nonferrous metals								
60 or more.....	\$407, 123	0. 05	-----	-----	-----	-----	\$407, 123	100. 00
30 to 59.....	520, 909, 843	62. 55	\$142, 325, 304	84. 91	\$78, 584, 539	15. 09	-----	-----
29 or less.....	306, 533, 513	36. 81	126, 406, 033	41. 24	180, 127, 480	58. 76	-----	-----
Free.....	-----	-----	-----	-----	-----	-----	-----	-----
Data incomplete.....	4, 982, 784	. 59	-----	-----	-----	-----	-----	-----
Total.....	832, 833, 263	100. 00	568, 731, 337	-----	258, 712, 019	-----	407, 123	-----
XIII. Machinery								
60 or more.....	-----	-----	-----	-----	-----	-----	-----	-----
30 to 59.....	\$2, 574, 604, 357	81. 25	\$1, 581, 775, 868	61. 44	\$987, 146, 138	38. 34	\$5, 772, 351	0. 22
29 or less.....	299, 443, 593	9. 45	261, 712, 129	87. 40	37, 731, 464	12. 60	-----	-----
Free.....	291, 481, 977	9. 20	-----	-----	-----	-----	-----	-----
Data incomplete.....	3, 324, 522	. 10	-----	-----	-----	-----	-----	-----
Total.....	3, 168, 944, 449	100. 00	1, 843, 487, 997	-----	1, 024, 877, 602	-----	5, 772, 351	-----
XIV. Transportation								
60 or more.....	-----	-----	-----	-----	-----	-----	-----	-----
30 to 59.....	-----	-----	-----	-----	-----	-----	-----	-----
29 or less.....	\$2, 848, 786, 150	100. 00	\$2, 848, 786, 150	100. 00	-----	-----	-----	-----
Free.....	-----	-----	-----	-----	-----	-----	-----	-----
Data incomplete.....	-----	-----	-----	-----	-----	-----	-----	-----
Total.....	2, 848, 786, 150	100. 00	2, 848, 786, 150	-----	-----	-----	-----	-----
XVI. Miscellaneous								
60 or more.....	\$1, 123, 079, 225	70. 30	\$955, 214, 198	85. 05	-----	-----	\$167, 865, 027	14. 95
30 to 59.....	325, 161, 999	20. 35	148, 279, 091	45. 60	\$176, 882, 908	54. 40	-----	-----
29 or less.....	143, 230, 114	8. 97	109, 118, 832	76. 18	34, 111, 282	23. 82	-----	-----
Free.....	1, 651, 445	. 10	-----	-----	-----	-----	-----	-----
Data incomplete.....	4, 523, 417	. 28	-----	-----	-----	-----	-----	-----
Total.....	1, 597, 646, 200	100. 00	1, 212, 612, 121	-----	210, 994, 190	-----	167, 865, 027	-----

Sources: Census of Manufactures, 1937; Temporary National Economic Committee Industrial Concentration Study; Foreign Commerce and Navigation of the United States.



TABLE 3.—Sample of industrial concentration, 1,807 products of the census, 1937, by census groups and according to tariff effects in 1937

Index of concentration	Restrictive effect of tariffs								Free, value
	Census products		Insignificant		Moderate		Substantial		
Value	Percent	Value	Percent	Value	Percent	Value	Percent		
I. Food									
75 or more 1	\$480,222,781	9.50	\$108,578,449	22.61	\$249,177,325	51.89	\$122,467,007	25.50	\$11,885,947
50 to 74	2,052,394,145	40.60	1,015,864,615	49.50	603,928,287	29.42	432,601,243	21.08	46,051,150
49 or less 2	2,522,321,995	49.90	576,313,216	22.85	1,796,632,654	71.23	149,376,125	5.92	
Total	5,054,938,921	100.00	1,700,756,280	33.64	2,649,738,266	52.42	704,444,375	13.94	57,939,697
Data incomplete	6,603,218								
Grand total	5,061,542,139								
II. Textiles									
75 or more	\$347,830,423	8.74	\$29,381,816	8.45	\$167,648,151	48.20	\$150,800,456	43.35	
50 to 74	634,984,731	15.96	233,352,151	36.75	253,888,393	39.98	147,744,187	23.27	
49 or less	2,996,943,123	75.30	1,177,728,475	39.30	648,921,274	21.65	1,170,293,374	39.05	
Total	3,979,758,277	100.00	1,440,462,442		1,070,457,818		1,468,838,017		
Data incomplete	70,274,073								
Grand total	4,050,032,350								
III. Lumber									
75 or more	\$96,072,946	15.14	\$72,001,822	74.95	\$15,787,441	16.43	\$8,283,683	8.62	
50 to 74	66,165,243	10.43	63,555,929	96.06	2,609,314	3.94			
49 or less	472,337,634	74.43	443,716,806	93.94	28,620,828	6.06			
Total	634,575,823	100.00	579,274,557		47,017,583		8,283,683		
Data incomplete	28,502,237								
Grand total	663,078,060								

<sup>1</sup> 4 companies or less supplied 75 percent or more of the total value of each product.<sup>2</sup> 4 companies supplied from 50 to 74 percent of the total value of each product.<sup>3</sup> 4 companies supplied 49 percent or less of the total value of each product.



## VIII. Rubber

75 or more.....	\$555, 271, 998	78.28	\$222, 930, 417	41.95	\$261, 810, 617	47.15	\$60, 530, 934	10.90	\$19, 737, 528
50 to 74.....	101, 831, 888	14.36	68, 869, 752	67.63	32, 962, 136	32.37			
49 or less.....	52, 204, 659	7.36	52, 204, 659	100.00					
Total.....	709, 308, 515	100.00	354, 004, 828		294, 772, 753		60, 530, 934		19, 737, 528

## IX. Leather

75 or more.....	\$119, 613, 701	10.48	\$17, 173, 861	14.36	\$100, 136, 025	83.71	\$2, 303, 815	1.93	
50 to 74.....	217, 047, 039	19.01	28, 697, 796	13.22	188, 349, 243	86.78			
49 or less.....	804, 727, 264	70.51	31, 133, 356	3.87	773, 593, 908	96.13			
Total.....	1, 141, 388, 004	100.00	77, 005, 013		1, 062, 079, 176		2, 303, 815		
Data incomplete.....	2, 233, 587								
Grand total.....	1, 143, 621, 591								

## X. Stone, clay

75 or more.....	\$359, 843, 649	34.28	\$193, 441, 944	53.73	\$146, 140, 700	40.64	\$90, 260, 945	5.63	\$1, 528, 206
50 to 74.....	228, 924, 015	21.80	113, 159, 862	49.43	115, 764, 158	50.57			953, 176
49 or less.....	461, 145, 555	43.92	134, 380, 264	23.14	326, 765, 291	70.86			2, 193, 294
Total.....	1, 049, 913, 219	100.00	440, 982, 070		588, 670, 204		20, 260, 945		4, 674, 676
Data incomplete.....	21, 246, 704								
Grand total.....	1, 071, 159, 923								

## XI. Iron, steel

75 or more.....	\$1, 143, 787, 219	38.10	\$673, 500, 987	58.88	\$470, 296, 232	41.12			\$5, 587, 144
50 to 74.....	1, 161, 455, 442	38.70	299, 527, 746	25.79	861, 927, 696	74.21			
49 or less.....	696, 320, 100	23.20	469, 788, 494	67.47	226, 531, 606	32.53			
Total.....	3, 001, 562, 761	100.00	1, 442, 817, 227		1, 558, 745, 534				5, 587, 144
Data incomplete.....	10, 422, 371								
Grand total.....	3, 011, 985, 132								

TABLE 3.—*Sample of industrial concentration, 1,807 products of the census, 1937, by census groups and according to tariff effects in 1937—Con.*

Index of concentration	Census products	Restrictive effect of tariffs						Free, value
		Insignificant		Moderate		Substantial		
	Value	Percent	Value	Percent	Value	Percent	Value	Percent
XII. Nonferrous metals								
75 or more.....	\$326, 100, 497	39.39	\$145, 628, 545	44.66	\$180, 064, 829	55.22	\$407, 123	0.12
50 to 74.....	327, 949, 570	39.61	249, 302, 380	76.02	78, 647, 190	23.98		
49 or less.....	173, 800, 412	21.00	173, 800, 412	100.00				
Total.....	827, 850, 479	100.00	568, 731, 337		258, 712, 019		407, 123	
Data incomplete.....	4, 982, 784							
Grand total.....	832, 833, 263							
XIII. Machinery								
75 or more.....	\$1, 520, 321, 503	52.90	\$1, 081, 169, 848	71.11	\$433, 379, 304	28.51	\$5, 772, 351	0.38
50 to 74.....	964, 381, 075	33.55	522, 639, 168	54.19	441, 741, 907	45.81		\$283, 801, 634
49 or less.....	389, 435, 472	13.55	239, 678, 981	61.55	149, 756, 491	38.45		7, 680, 343
Total.....	2, 874, 138, 050	100.00	1, 843, 487, 997		1, 024, 877, 702		5, 772, 351	291, 481, 977
Data incomplete.....	3, 524, 422							
Grand total.....	2, 877, 462, 472							
XIV. Transportation								
75 or more.....	\$2, 848, 786, 150	100.00	\$2, 848, 786, 150	100.00				

## XVI. Miscellaneous

75 or more.....	\$1,252,807,419	78.72	\$1,051,393,897	83.92	\$201,413,522	16.08			\$1,651,445
50 to 74.....	42,552,552	2.67	32,971,884	77.49	9,580,668	22.51			
49 or less.....	296,111,367	18.61	128,246,340	43.31				\$167,865,027	56.69
Total.....	1,591,471,338	100.00	1,212,612,121		210,994,190			167,865,027	
Data incomplete.....	4,523,417								
Grand total.....	1,595,994,755								

Sources: Census of Manufacturers, 1937. Temporary National Economic Committee, Industrial Concentration Study.





## APPENDIX II

### SCHEDULES OF INFORMATION FOR EACH PRODUCT INCLUDED IN THE SAMPLE OF 317 PRODUCTS

#### GROUP A: FOODS AND RELATED PRODUCTS

##### SOFT OR BROWN REFINED SUGAR

1. *Description and use.*—Soft or brown sugar is a refined sugar with sufficient sirup content to give it a special texture, color, and flavor, as compared with refined, granulated sugar. It varies in polarization, but is usually below 96°.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12	18	83	\$22,603,146	37 percent (Cuban sugar). <sup>1</sup>

<sup>1</sup> Because of the preferential duty on Cuban sugar, practically all dutiable sugar imported into the United States is from Cuba.

3. *Recent tariff history.*—Act of 1913: 1.256 cents per pound (96° sugar); Cuban preferential rate 20 percent lower. Act of 1922: 2.206 cents per pound (96° sugar); Cuban preferential rate 20 percent lower. Act of 1930: 2.5 cents per pound (96° sugar); Cuban preferential rate 20 percent lower. Present duty: 1.875 cents per pound (96° sugar); Cuban preferential rate 20 percent lower.<sup>1</sup>

4. *Average ad valorem equivalent.*—All Cuban sugar: 1935, 45 percent; 1936, 37 percent; 1937, 37 percent; 1938, 45 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935	\$23,409,448	(1)	(1)
1937	22,603,146	(1)	(1)

<sup>1</sup> Imports and exports are negligible.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and establishment of brands account largely for the concentration. Removal of the quotas and duties on sugar would increase substantially the imports of both raw and refined sugar, would eliminate a large part of the domestic production

<sup>1</sup> Presidential proclamation June 8, 1934, established present general duty. Cuban trade agreement, September 3, 1934, increased the Cuban margin of preference by reducing the duty from 1.5 to 0.9 cents per pound. Between September 11 and December 27, 1939, a Presidential proclamation suspended quota provisions of the Sugar Act of 1937 and restored Cuban preferential rate of 20 percent, i. e., 1.5 cents.

of beet sugar and of the continental production of cane sugar, and would appreciably lower the price, probably by an amount greater than the present duty on Cuban sugar.

#### BEET SUGAR (GRANULATED)

1. *Description and use.*—Granulated beet sugar is the refined product of beet-sugar factories. Unlike cane sugar, there is no intermediate product of raw sugar. Granulated beet and cane sugar are used interchangeably. Approximately 20 percent of the domestic consumption of sugar is domestic beet sugar.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
21.....	87	76	\$99, 557, 238	37 percent (Cuban sugar). <sup>1</sup> 135 percent (beet sugar)

<sup>1</sup> Because of the preferential duty on Cuban sugar, practically all dutiable sugar imported into the United States is from Cuba.

3. *Recent tariff history.*—Act of 1913: 1.36 cents per pound (100° sugar); Cuban preferential rate, 20 percent lower. Act of 1922: 2.39 cents per pound (100° sugar); Cuban preferential rate, 20 percent lower. Act of 1930: 2.65 cents per pound (100° sugar); Cuban preferential rate, 20 percent lower. Present duty: 1.9875 cents per pound (100° sugar); Cuban preferential rate, 20 percent lower.<sup>2</sup>

4. *Average ad valorem equivalent.*—All Cuban sugar: 1935, 45 percent; 1936, 37 percent; 1937, 37 percent; 1938, 45 percent. Beet sugar 1935, 128 percent; 1936, 137 percent; 1937, 135 percent; 1938, 115 percent.

#### 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$88, 758, 570	\$26, 071	( <sup>2</sup> )
1937.....	99, 557, 238	57, 881	( <sup>2</sup> )

<sup>1</sup> Beet sugar; in addition 16.5 and 21.3 million dollars of granulated cane from Latin America.

<sup>2</sup> Negligible.

6. *Industrial concentration and tariff policy.*—Plants are located in sugar-beet areas. Financial resources and consolidation of companies account largely for the concentration. Imports consist principally of raw cane sugar from Cuba and from offshore domestic areas (free of duty), which is refined in coastal refineries. Removal of the quotas and duties on sugar would increase substantially the imports of both raw and refined sugar, would eliminate a large part of the domestic production of beet sugar and of the continental production of cane sugar, and would appreciably lower the price, probably by an amount greater than the present duty on Cuban sugar.

<sup>2</sup> Presidential proclamation June 8, 1934, established present general duty. Cuban trade agreement September 3, 1934, increased the Cuban margin of preference by reducing the duty from 1.59 to 0.954 cents per pound. Between September 11 and December 27, 1939, a Presidential proclamation suspended quota provisions of the Sugar Act of 1937, and restored Cuban preferential rate of 20 percent, i. e., 1.59 cents.

## CANNED SAUSAGE

1. *Description and use.*—Canned sausage is an article of food of only occasional use in a temperate climate. It is used more in tropical and semitropical regions where refrigeration facilities are not always available.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
37.....	41	80	\$5,998,598	20 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: 20 percent. Act of 1930: 6 cents per pound, but not less than 20 percent ad valorem. Present duty: 6 cents per pound, but not less than 20 percent ad valorem.

4. *Average ad valorem equivalent.*—Not available.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$4,612,874	(1)	\$269,395
1937.....	5,998,598	(1)	411,912

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Side-line production by the large meat-packing companies accounts for the concentration. Imports probably consist of high-priced specialties. A substantial reduction in the duty would have little or no effect on the import situation.

## CANNED DOG AND CAT FOOD

1. *Description and use.*—Canned dog and cat food in general is made of meat, meat products, or fish with either or both cereals and vegetables. These ingredients are cooked and preserved in hermetically sealed cans.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
22.....	28	83	\$20,317,230	10 and 20 percent.

3. *Recent tariff history.*—Act of 1913.<sup>3</sup> Act of 1922.<sup>2</sup> Act of 1930: 10 percent, mixed food containing grain; <sup>4</sup> 20 percent, no cereal

<sup>3</sup> No classification, nor imports.

<sup>4</sup> If unfit for human consumption.

content. Present duty: 5 percent, mixed food containing grain;<sup>5</sup> 20 percent, no cereal content.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935	(1)	None	(3)
1937	\$20, 317, 230	(2)	(1)

<sup>1</sup> Not separately reported.

<sup>2</sup> Not available.

<sup>3</sup> Negligible.

6. *Industrial concentration and tariff policy*.—The recent development of the industry, as well as side-line production by the large meat-packing companies largely account for the concentration. Imports, indicated by foreign statistics of exports, are relatively small and consist mainly of foods with grain products. Removal of the duty would increase imports moderately and would lower prices slightly.

#### CANNED SPAGHETTI

1. *Description and use*.—Canned spaghetti is ordinarily preserved in tins, usually with tomato sauce.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937 Free, ad valorem rate, or equivalent
44	47	78	\$8, 957, 744	35 percent.

3. *Recent tariff history*.—Act of 1913: 25 percent. Act of 1922: 35 percent. Act of 1930: 35 percent. Present duty: 35 percent.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935	\$6, 715, 607	None	(1)
1937	8, 957, 744	None	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Specialization, as well as side-line production by the large food-packing companies, probably accounts for the concentration. Canned spaghetti is largely an American product. A substantial reduction of the duty would probably have little effect on the import situation.

<sup>5</sup> Canadian Trade Agreement, effective January 1, 1939.



## GRAPE JUICE

1. *Description and use.*—Grape juice is the unfermented, pasteurized product made chiefly of Concord grapes. It is bottled in pint or quart sizes, or canned in large sizes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
19.....	23	80	\$5, 010, 000	30 percent.

3. *Recent tariff history.*—Act of 1913: 70 cents per gallon. Act of 1922: 70 cents per gallon, plus \$5 per proof gallon on alcohol content. Act of 1930: 70 cents per gallon, plus \$5 per proof gallon on alcohol content. Present duty: 70 cents per gallon, plus \$5 per proof gallon on alcohol content.

4. *Average ad valorem equivalent.*—1934: 42 percent; 1935: 116 percent; 1936: 52 percent; 1937: 30 percent; 1938: 106 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3, 385, 000	\$23	(1)
1937.....	5, 010, 000	101	(1)

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialization and the establishment of brands account largely for the concentration. A substantial reduction in the duty would increase moderately imports of unconcentrated juice from Canada and would probably increase greatly the imports of concentrated juice which is used as a raw material in the production of wine.

## CANNED PLUMS

1. *Description and use.*—Canned plums consist of the ordinary types which are used for desserts and pastries. Prunes, which are a closely related fruit, are produced largely for drying.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
19.....	23	82	\$712, 702	35 percent.

3. *Recent tariff history*.—Act of 1913: 20 percent. Act of 1922: 35 percent. Act of 1930: 35 percent. Present duty: 35 percent.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$692, 073	\$48, 546	(1)
1937.....	712, 702	56, 795	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—The production of plums for canning is localized in a few areas. The industry is a small part of the general fruit canning industry. Imports are used mainly by orientals. A substantial reduction of the duty would probably increase imports only moderately.

#### CANNED CRANBERRIES AND SAUCE

1. *Description and use*.—Canned cranberries and sauce are the ordinary cranberries of commerce preserved in tins.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	13	94	\$3, 721, 259	35 percent.

3. *Recent tariff history*.—Act of 1913: 1 cent per pound. Act of 1922: 35 percent. Act of 1930: 35 percent. Present duty: 35 percent.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$2, 616, 023	(1)	(1)
1937.....	3, 721, 259	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—The production of cranberries is localized in a few areas and a large portion of the crop is marketed as fresh berries. There are probably no imports. Reduction or removal of the duty would not affect the import situation.

## CANNED SOUPS

1. *Description and use.*—Canned soups include all types commonly sold at retail.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
44.....	59	95	\$61,563,731	35 percent.

3. *Recent tariff history.*—Act of 1913: 35 percent. Act of 1922: 35 percent. Act of 1930: 35 percent. Present duty: 35 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$47,208,754	\$21,392	\$228,833
1937.....	61,563,731	29,429	283,862

6. *Industrial concentration and tariff policy.*—Experience, financial resources and integration, and the establishment of brands account for the present concentration. Imports consist in part of soups shipped from American branch plants in Canada. A substantial reduction of the duty would increase imports only slightly and would not lower prices appreciably.

## VEGETABLE PUREE (FOR INFANTS)

1. *Description and use.*—Vegetable puree includes all types commonly sold at retail for infant feeding.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	12	89	\$6,946,874	35 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent. Act of 1922: 35 percent. Act of 1930: 35 percent. Present duty: 35 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1,388,662	(1)	(1)
1937.....	6,946,874	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—The recent development of the industry, specialization, and side-line production by a few of the large food-canning companies account largely for the present concentration. A substantial reduction of the duty would probably have very little effect on the import-domestic price situation.

#### BUCKWHEAT FLOUR

1. *Description and use.*—Buckwheat flour is the principal product made from buckwheat. Combined with other flours it is used to make pancake flour mixtures.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
19 .....	200	<sup>1</sup> 80	\$844, 287	9 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922:  $\frac{1}{2}$ -cent per pound. Act of 1930:  $\frac{1}{2}$ -cent per pound. Present duty:  $\frac{3}{10}$ -cent per pound.<sup>6</sup>

4. *Average ad valorem equivalent.*—1934, 20 percent; 1935, 20 percent; 1936, 17 percent; 1937, 9 percent; 1938, 16 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935 .....	\$656, 723	\$1, 007	( <sup>1</sup> )
1937 .....	844, 287	6, 229	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Many small local mills grind buckwheat flour. A large number of these are probably excluded (value of product less than \$5,000) from the census data. A substantial reduction of the duty would increase imports moderately and, especially in short-crop years, would tend to keep prices from rising rapidly.

#### FRESH MUTTON AND LAMB

1. *Description and use.*—Fresh mutton and lamb are meats of everyday consumption.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
431 .....	523	75	\$128, 270, 281	43 percent mutton, 49 percent lamb.

<sup>6</sup> Canadian trade agreement, effective Jan. 1, 1939.

3. *Recent tariff history*.—Act of 1913: Free. Act of 1922: 2½ cents per pound (mutton), 4 cents per pound (lamb). Act of 1930: 5 cents per pound (mutton), 7 cents per pound (lamb). Present duty: 5 cents per pound (mutton), 7 cents per pound (lamb).

4. *Average ad valorem equivalent*.—1934, 35 percent (mutton), 39 percent (lamb); 1935, 39 percent (lamb); 1936, 43 percent (mutton), 45 percent (lamb); 1937, 43 percent (mutton), 49 percent (lamb); 1938, 21 percent (mutton), 41 percent (lamb).

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$113,008,446	\$5,772	\$108,741
1937.....	128,270,281	19,240	100,444

6. *Industrial concentration and tariff policy*.—Many small establishments (value of product less than \$5,000) are not included in the census data. The few large meat-packing companies, with highly specialized marketing facilities, account for the concentration. Imports consist mainly of frozen meat. A substantial reduction of the duty would increase imports moderately and would lower prices especially in the New York area.

#### CORNSTARCH

1. *Description and use*.—Cornstarch is used as a food, and as an industrial material in industries, such as textile, paper, and laundry.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	12	89	\$35,672,363	58 percent.

3. *Recent tariff history*.—Act of 1913: ½-cent per pound. Act of 1922: 1 cent per pound. Act of 1930: 1½ cents per pound. Present duty: 1½ cents per pound.

4. *Average ad valorem equivalent*.—1934, 10 percent; 1935, 38 percent; 1936, 77 percent; 1937, 58 percent; 1938, 26 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$26,637,504	\$8	\$1,362,277
1937.....	35,672,363	7,060	1,362,911

6. *Industrial concentration and tariff policy*.—Economies of large-scale production, financial resources and integration, and the establishment of brands account largely for the present concentration. One company has about 13 branch plants in foreign countries. A substantial reduction of the duty would probably affect only slightly



the import-domestic price situation in eastern coastal areas. Tapioca starch, a partial substitute for cornstarch, is imported free of duty.

#### CORN-SIRUP MIXTURES

1. *Description and use.*—Corn sirup is an intermediate product between cornstarch and corn sugar. Corn-sirup mixtures are a combination of corn sirup (chiefly) and other flavoring sirups. They are used principally as table sirup.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	8	1 90	\$10, 392, 615	35 percent. <sup>1</sup>

<sup>1</sup> Estimated.

<sup>2</sup> 1935 invoice analysis.

3. *Recent tariff history.*—Act of 1913: 1½ cents per pound. Act of 1922: 1½ cents per pound. Act of 1930: 2 cents per pound. Present duty: 2 cents per pound.

4. *Average ad valorem equivalent.*—(Not available.)

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$9, 993, 408	\$138	\$669, 107
1937.....	10, 392, 615	(1)	892, 088

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Side-line production of the large manufacturers of starch and the establishment of brands account largely for the concentration. Reduction or removal of the duty would probably have very little effect on the import-domestic price situation.

#### CORN SUGAR

1. *Description and use.*—Corn sugar (dextrose) is made from cornstarch. It is used principally by the manufacturers of food products.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	10	1 90	\$15, 692, 490	23 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 1½ cents per pound. Act of 1922: 1½ cents per pound. Act of 1930: 2 cents per pound. Present duty: 2 cents per pound.

4. *Average ad valorem equivalent*.—None. 1934, 28 percent; 1937, 23 percent (no imports in 1935, 1936, and 1938).

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$10, 975, 634	None	\$165, 749
1937.....	15, 692, 490	\$190	363, 622

6. *Industrial concentration and tariff policy*.—Side-line production of the large manufacturers of starch accounts largely for the concentration. American companies own branch plants in the United Kingdom, France, and Belgium. Reduction or removal of the duty would have very little effect on the import-domestic price situation.

## CORN OIL (REFINED)

1. *Description and use*.—Refined corn oil is used mainly as a salad and cooking oil.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	7	1 95	\$12, 232, 292	20 percent.

<sup>1</sup> Estimate.

3. *Recent tariff history*.—Act of 1913: 15 percent ad valorem. Act of 1922: 20 percent ad valorem. Act of 1930: 20 percent ad valorem. Present duty: 20 percent ad valorem.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports <sup>1</sup>	Exports <sup>1</sup>
1935.....	\$9, 672, 920	\$1, 570, 894	\$72, 089
1937.....	12, 232, 292	2, 327, 181	47, 232

<sup>1</sup> Classified as "edible."

6. *Industrial concentration and tariff policy*.—Side-line production of the large manufacturers of cornstarch and the establishment of brands account for the concentration. Reduction or removal of the duty would probably have only a moderate effect on the import-domestic price situation.

## CORN OIL CAKE AND MEAL

1. *Description and use.*—Corn oil cake is the residue of the corn germ from which the oil has been expressed. Cake is ground into meal. They are used as feed for livestock.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	8	1 80	\$952,680	15 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: Free. Act of 1930:  $\frac{3}{10}$  cent per pound. Present duty:  $\frac{3}{10}$  cent per pound.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$452,906	(1)	(1)
1937.....	952,680	(1)	(1)

<sup>1</sup> Negligible.

6. *Industrial concentration and tariff policy.*—Byproduct manufacture of the large starch-making companies and, to a limited extent, of the breakfast food companies accounts for the concentration. A large portion of domestic production (not included above) is mixed with other products and sold as corn gluten feed. Removal of the duty would probably have only a very moderate effect on the import-domestic price situation.

## DEXTRINE

1. *Description and use.*—Dextrines are produced from corn, tapicoa, sago, potato, and other starches. They are used principally as adhesives and sizings.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	5	1 95	\$4,124,210	72 percent (potato). 48 percent (other).

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 1¼ cents per pound, potato; ¾ cent per pound, other. Act of 1922: 2¼ cents per pound, potato; 1¼ cents per pound, other. Act of 1930: 3 cents per pound, potato; 2 cents per pound, other. Present duty: 2¼ cents per pound, potato;<sup>7</sup> 2 cents per pound, other.

4. *Average ad valorem equivalent.*—Potato: 1934, 71 percent; 1935, 75 percent; 1936, 75 percent; 1937, 72 percent; 1938, 72 percent. Other: 1934, 39 percent; 1935, 39 percent; 1936, 43 percent; 1937, 48 percent; 1938, 47 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	<sup>1</sup> \$2,688,567	<sup>2</sup> \$197,958	\$225,016
1937.....	4,124,210	<sup>2</sup> 147,448	225,814

<sup>1</sup> Less inclusive than 1937 data.

<sup>2</sup> Potato dextrine included \$24,252 and \$23,891.

6. *Industrial concentration and tariff policy.*—Side-line production of the large manufacturers of starch largely accounts for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

<sup>7</sup> Trade agreement with the Netherlands, effective February 1, 1936.

## GROUP B: TEXTILES AND ALLIED PRODUCTS

### RAYON YARN (ACETATE, VISCOSE, AND CUPRAMMONIUM)

1. *Description and use.*—Rayon is a textile yarn made by forcing a solution of cellulose, or its derivatives, through spinnerets and coagulating it as solid filaments. Most of the production goes into the weaving of dress goods, linings, curtains, drapery fabrics, and upholsteries. A small amount is used in the knit goods industry, mostly for underwear.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 <sup>1</sup> and 15 <sup>2</sup> .....	{ 5 21 }	{ 280 190 }	\$204,791,000	120 percent.

<sup>1</sup> Acetate, estimated.

<sup>2</sup> Viscose and cuprammonium, estimated.

3. *Recent tariff history.*—Act of 1913: 35 percent ad valorem. Act of 1922: 45 cents per pound; minimum ad valorem—45 percent. Act of 1930: 45 and 50 percent; minimum of 45 cents per pound. Present duty: 45 and 50 percent; minimum of 45 cents per pound.

4. *Average ad valorem equivalent.*—1934, 64 percent; 1935, 60 percent; 1936, 125 percent; 1937, 120 percent; 1938, 128 percent.

#### 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$146,067,000	\$21,727	\$1,158,604
1937.....	204,791,000	309,185	809,489

6. *Industrial concentration and tariff policy.*—Specilized production, important side-line production by one of the largest chemical companies, early patents, secret processes account largely for the concentration. A substantial reduction of the duty would increase imports greatly and would reduce prices appreciably.

### RAYON STAPLE FIBER

1. *Description and use.*—Staple fiber is primarily a raw spinning fiber made by cutting untwisted continuous rayon filaments into short lengths corresponding to the staple of cotton or wool. It is adaptable for spinning so-called spun-rayon yarn and for blending with other fibers.



2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.-----	9	1 90	\$6, 177, 000	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 20 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.-----	(1)	\$317, 000	(1)
1937.-----	\$6, 177, 000	3, 847, 000	(1)

<sup>1</sup> Not reported separately.

6. *Industrial concentration and tariff policy.*—Side-line production by the large manufacturers of rayon yarn and size of market account for the concentration. Imports from Japan, formerly chief source, consist of low-priced, irregular lengths and sizes of fiber. A substantial reduction of the duty would increase imports moderately and would lower prices.

## SPUN-RAYON CHALLIES AND TWILLS

1. *Description and use.*—Spun-rayon challies and twills are made of spun-rayon yarn produced on cotton-spinning machinery from staple fiber, cut from continuous rayon filaments. These spun-rayon fabrics are plain-woven and are used for dresses and sports apparel.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.-----	8	1 90	\$1, 643, 797	90 percent. <sup>2</sup>

<sup>1</sup> Estimated.<sup>2</sup> All rayon fabrics (except pile).

3. *Recent tariff history.*—Act of 1913.<sup>1</sup> Act of 1922.<sup>1</sup> Act of 1930: 45 cents per pound, plus 60 percent ad valorem. Present duty: 45 cents per pound, plus 45 percent ad valorem.<sup>2</sup>

4. *Average ad valorem equivalent (all rayon fabrics, except pile).*—1934, 77 percent; 1935, 84 percent; 1936, 86 percent; 1937, 90 percent.

<sup>1</sup> Not an article of commerce until 1930.<sup>2</sup> French trade agreement, effective June 15, 1936.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	( <sup>1</sup> )		
1937.....	\$1,643,797		

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Side-line production by a few large manufacturers of cotton fabrics, and size and nature of the market account largely for the concentration. A substantial reduction of the duty would increase imports greatly and would lower prices appreciably.

## RAYON MARQUISETTES

1. *Description and use.*—Rayon marquisettes are used primarily for window curtains; when dyed or printed, they are also used during some style periods in the dress industry.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	1 90	\$3,603,550	90 percent. <sup>2</sup>

<sup>1</sup> Estimated.<sup>2</sup> All rayon fabrics (except pile).

3. *Recent tariff history.*—Act of 1913: 60 percent ad valorem. Act of 1922: 45 cents per pound, plus 60 percent ad valorem. Act of 1930: 45 cents per pound, plus 60 percent ad valorem. Present duty: 45 cents per pound, plus 45 percent ad valorem.<sup>3</sup>

4. *Average ad valorem equivalent (all rayon fabrics except pile).*—1934, 77 percent; 1935, 84 percent; 1936, 86 percent; 1937, 90 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	\$3,063,550	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Some specialized production (partly on a commission basis), side-line production by a few large manufacturers of rayon dress goods, and size of market account largely for the concentration. A substantial reduction of the duty would probably increase imports and would lower prices appreciably.

<sup>3</sup> French trade agreement, effective June 15, 1936.

## RAYON TAPESTRIES AND DRAPERIES

1. *Description and use.*—Tapestries are used for furniture upholstery and other articles of interior decoration. They are usually jacquard-figured, as are draperies.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	10	1 90	\$1,755,441	90 percent. <sup>2</sup>

<sup>1</sup> Estimated.

<sup>2</sup> All rayon fabrics (except pile).

3. *Recent tariff history.*—Act of 1913: 60 percent ad valorem. Act of 1922: 45 cents per pound, plus 60 percent ad valorem. Act of 1930: 45 cents and 60 percent, nonjacquard; 45 cents plus 70 percent, jacquard-figured. Present duty: 45 cents per pound, plus 45 percent ad valorem.<sup>4</sup>

4. *Average ad valorem equivalent (all rayon fabrics except pile).*—1934, 77 percent; 1935, 84 percent; 1936, 86 percent; 1937, 90 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$1,755,441	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production requiring for many types special looms, technical skill, and size and nature of the market account largely for the concentration. A substantial reduction of the duty would probably increase imports and would lower prices appreciably.

## RAYON VELVETS

1. *Description and use.*—Velvets wholly of rayon are used for millinery, dress goods, artificial flowers, toy animals, upholstery, drapery, and for other decorative fabrics for interior furnishing.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	7	1 90	\$1,585,184	58 percent.

<sup>1</sup> Estimated.

<sup>2</sup> French trade agreement, effective June 15, 1936.

3. *Recent tariff history.*—Act of 1913: 60 percent ad valorem. Act of 1922: 45 cents per pound plus 60 percent ad valorem. Act of 1930: 45 cents per pound plus 60 or 65 percent depending on pile. Present duty: 25 cents per pound plus 50 percent ad valorem.<sup>5</sup>

4. *Average ad valorem equivalent.*—1934, 69 percent; 1935, 69 percent; 1936, 59 percent; 1937, 58 percent; 1938, 60 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	\$15,856	(1)
1937.....	\$1,585, 184	14, 665	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Some specialization, side-line production by manufacturers of velvet goods, and size of market probably account for the concentration. Imports consist mostly of high-quality goods and novelties. A substantial reduction of the duty would increase imports and would lower prices.

#### RAYON DRESS GOODS (OF RAYON WARP AND SILK FILLING)

1. *Description and use.*—Rayon dress goods are used for the manufacture of women's dresses. They contain silk for filling which may in some instances constitute the chief value of the goods.

2. *Industrial concentration, 1937.*

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	17	83	\$3, 441, 309	90 percent. <sup>1</sup>

<sup>1</sup> Imports of all types of rayon fabrics other than pile.

3. *Recent tariff history.*<sup>6</sup>—Act of 1913: 60 percent ad valorem. Act of 1922: 45 cents per pound plus 60 percent ad valorem. Act of 1930: 45 cents per pound plus 60 or 70 percent depending on construction. Present duty: 45 cents per pound plus 45 percent ad valorem.<sup>2</sup>

4. *Average ad valorem equivalent.*—1934, 77 percent; 1935, 84 percent, 1936, 86 percent; 1937, 90 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$3, 441, 309	(1)	(1)

<sup>1</sup> No comparable data available.

<sup>6</sup> French trade agreement, effective June 15, 1936.

<sup>2</sup> These rates apply only when rayon is the fiber of chief value. If silk is the fiber of chief value, the goods are dutiable according to the rates on silk.

6. *Industrial concentration and tariff policy.*—Some specialization, side-line production by a few companies which manufacture large quantities of all-rayon dress goods, and size of market (higher-priced than all-rayon) account largely for the concentration. A substantial reduction of the duty would increase imports and would lower prices.

#### NOVELTIES OF RAYON WARP MIXTURES (OTHER THAN DRESS GOODS)

1. *Description and use.*—Novelties of this material include such items as: Evening handbags, shoes, and wraps, millinery, bedspreads, and similar articles.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12	12	92	\$1, 973, 977	90 percent. <sup>1</sup>

<sup>1</sup> All rayon fabrics (except pile).

3. *Recent tariff history.*<sup>7</sup>—Act of 1913: 60 percent ad valorem. Act of 1922: 45 cents per pound, plus 60 percent. Act of 1930: 45 cents per pound, plus 60 percent, not jacquard; 45 cents plus 70 percent jacquard. Present duty: 45 cents per pound, plus 45 percent ad valorem.<sup>8</sup>

4. *Average ad valorem equivalent.*—1935, 84 percent; 1937, 90 percent.

#### 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935	\$1, 125, 610	(1)	(1)
1937	1, 973, 977	(1)	(1)

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Side-line production by a few large manufacturers of silk and rayon goods, technical skill in designing, and size and nature of the market account largely for the concentration. A substantial reduction of the duty would increase imports greatly and would lower prices appreciably.

<sup>7</sup> French trade agreement, effective June 15, 1936.

<sup>8</sup> For items in chief value of rayon.



## SILK MIXED LININGS (INCLUDING TAFFETAS AND TWILLS)

1. *Description and use.*—Silk mixed linings are usually over 30 inches wide and may include some jacquard-figured goods.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	10	89	\$1, 004, 817	55 percent. <sup>1</sup>

<sup>1</sup> Effective duty.

3. *Recent tariff history.*—Act of 1913: 45 percent ad valorem. Act of 1922: 55 percent ad valorem. Act of 1930: 55, 60, and 65 percent, depending on width and construction. Present duty: 55, 60, and 65 percent, depending on width and construction.<sup>9</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$871, 222	(1)	(1)
1937.....	1, 004, 817	(1)	(1)

<sup>1</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Some specialization (partly by commission weavers), side-line production by a few companies which manufacture large quantities of rayon linings and size of market account largely for the concentration. A substantial reduction of the duties would increase imports and would lower prices.

## SILK VELVETS (WITH RAYON OR COTTON FILLING)

1. *Description and use.*—Velvets are pile goods distinguished by dense brush-like tufts or loops projecting from the body of the cloth. Velvets are chiefly used in the women's apparel industries, in millinery, for interior decorating, and other minor uses.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	7	90	\$2, 820, 631	51 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 50 percent ad valorem. Act of 1922: 60 percent ad valorem. Act of 1930: 65 percent, pile

<sup>9</sup> Silk mixtures not over 30 inches in width and not jacquard-figured reduced from 60 to 50 percent, Swiss Trade Agreement, effective Feb. 15, 1936.

wholly cut or uncut; 70 percent, pile partly cut. Present duty: 50 percent ad valorem.<sup>10</sup>

4. *Average ad valorem equivalent.*—1934, 65 percent; 1935, 65 percent; 1936, 57 percent; 1937, 51 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$934, 681	\$160, 039	\$172, 102
1937.....	2, 820, 631	96, 004	24, 640

<sup>1</sup> Includes also plushes and chenilles not shown in production statistics.

6. *Industrial concentration and tariff policy.*—Specialization, shifts in styles, and size of market account largely for the concentration. Imports consist of specialties and the more common types of velvets. A substantial reduction of the duty would increase imports and would lower prices.

#### ALL-SILK LINGERIE SATINS

1. *Description and use.*—Lingerie satins are used for the manufacture of slips, nightgowns, negligees, etc. They are over 30 inches wide, mostly plain woven, and are usually valued at less than \$5.50 per pound.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
15.....	16	77	\$4, 149, 800	55 percent. <sup>1</sup>

<sup>1</sup> Effective duty.

3. *Recent tariff history.*—Act of 1913: 45 percent ad valorem. Act of 1922: 55 percent ad valorem. Act of 1930: 55, 60, or 65 percent, depending on construction and width. Present duty: 55, 60, or 65 percent, depending on construction and width.<sup>11</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$4, 149, 800	(1)	(1)

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Some specialization (commission weavers) and side-line production by a few companies which manufacture large quantities of broad silks accounts largely for the concentration. A substantial reduction of the duty, especially in the lower value brackets, would increase imports and lower prices.

<sup>10</sup> French trade agreement, effective June 15, 1936.

<sup>11</sup> French trade agreement reduced the duty on all-silk goods valued at \$5.50 per pound or over.

## ALL-SILK FRENCH CREPES

1. *Description and use.*—French crepes, after dyeing or printing, can be used in dresses, but the bulk of this fabric is finished into cloth and used for lingerie. Such fabrics are all over 30 inches in width, mostly plain-woven, and are usually valued at less than \$5.50 per pound.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	15	92	\$1, 409, 252	55 percent. <sup>1</sup>

<sup>1</sup> Effective duty.

3. *Recent tariff history.*—Act of 1913: 45 percent ad valorem. Act of 1922: 55 percent ad valorem. Act of 1930: 55 percent ad valorem. Present duty: 55 percent ad valorem.<sup>12</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$1, 409, 252	(1)	(1)

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Some specialization (partly by commission weavers), side-line production by a few companies which manufacture large quantities of broadsilks, and size of market account largely for the concentration. A substantial reduction of the duty especially in the lower-value brackets would increase imports and would lower prices.

INFANTS' ANKLETS AND SLACK SOCKS (ALL-COTTON, ALL-RAYON, AND RAYON WITH COTTON)

1. *Description and use.*—Infants' anklets and slack socks include those of all-cotton, all-rayon, and those of rayon combined with cotton. They are made on circular hosiery machines of small diameters.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	22	76	\$1, 929, 820	50 percent. <sup>1</sup>

<sup>1</sup> Estimated.

<sup>12</sup> French trade agreement reduced the duty on all-silk goods valued at \$5.50 per pound or over

3. *Recent tariff history.*—Act of 1913: 30, 40, 50 percent, chief value cotton; 60 percent, rayon chief value. Act of 1922: 50 percent, cotton; 45 cents per pound, plus 60 percent, rayon. Act of 1930: 50 percent, cotton; 45 cents per pound, plus 65 percent, rayon. Present duty: 50 percent, cotton; 45 cents per pound, plus 65 percent, rayon.

4. *Average ad valorem equivalent.*—Not available.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(2)
1937.....	\$1,929,820	(2)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not available, but probably very small.

6. *Industrial concentration and tariff policy.*—The special sizes of machinery needed and the small size of the market account for the concentration. Japanese exports of all types of cotton and of rayon hosiery to the United States were restricted by informal agreement from January 1, 1937, to December 31, 1939. A substantial reduction of the duty would probably increase imports moderately and would lower prices of the cheaper grades.

BOYS', MISSES', AND CHILDREN'S ANKLETS AND SLACK SOCKS (ALL-RAYON AND RAYON WITH COTTON TOPS)

1. *Description and use.*—The above type of hosiery is seamless and is made on circular hosiery machines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	9	190	\$1,300,033	77 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 60 percent ad valorem. Act of 1922: 45 cents per pound and 60 percent ad valorem. Act of 1930: 45 cents per pound and 65 percent ad valorem. Present duty: 45 cents per pound and 65 percent ad valorem.

4. *Average ad valorem equivalent.*—Not available.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(2)
1937.....	\$1,300,033	(2)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not available, but probably very small.

6. *Industrial concentration and tariff policy.*—Although many hosiery mills are equipped to make anklets in these sizes apparently only a very few make them of rayon, either exclusively or along with other types. Japanese exports of all types of cotton and of rayon hosiery to the United States were restricted by informal agreement from January 1, 1937, to December 31, 1939. A substantial reduction of the duty would probably increase imports moderately and would lower prices of the cheaper grades.

#### WOMEN'S ANKLETS AND SLACK SOCKS (SEAMLESS, ALL-COTTON)

1. *Description and use.*—Women's seamless all-cotton anklets and slack socks are fabricated on circular hosiery machines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
15.....	15	83	\$681, 631	50 percent.

3. *Recent tariff history.*—Act of 1913: 30, 40, or 50 percent ad valorem according to value bracket. Act of 1922: 50 percent ad valorem. Act of 1930: 50 percent ad valorem. Present duty: 50 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(2)
1937.....	\$681, 631	(2)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Although many hosiery mills are equipped to make this small specialty item, apparently only a few make it along with other types. Imports are probably very small. Japanese exports of all types of cotton and of rayon hosiery to the United States were restricted by informal agreement from January 1, 1937, to December 31, 1939. A substantial reduction of the duty would probably increase imports moderately and would lower prices of the cheaper grades.

#### COTTON BLANKETINGS

1. *Description and use.*—Cotton blanketings are napped fabrics sold in the piece. Although used chiefly for blankets, this cloth may also be used for mechanical purposes or may be used in the manufacture of wearing apparel such as bathrobes.



2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	6	1 90	\$4, 259, 554	74 percent <sup>2</sup> ; 30 percent. <sup>3</sup>

<sup>1</sup> Estimated.<sup>2</sup> 1936.<sup>3</sup> 1938.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 40 or 45 percent ad valorem, depending on finish. Act of 1930: 30 percent but not less than 14½ cents per pound, non-Jacquard; 45 percent, Jacquard. Present duty: 30 percent but not less than 14½ cents per pound, non-Jacquard; 45 percent, Jacquard.

4. *Average ad valorem equivalent.*—1936, 74 percent; 1938, 30 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 837, 365	None	( <sup>1</sup> )
1937.....	4, 259, 854	None	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, some side-line production, and establishment of brands probably account for the concentration. A substantial reduction of the duty would increase imports only moderately and would lower prices slightly.

## ALL-COTTON BLANKETS (JACQUARD, NON-JACQUARD, AND CRIB)

1. *Description and use.*—All-cotton blankets are made from napped fabrics and are used principally as bed blankets. Jacquard-figured blankets are woven-figured at the loom; non-Jacquard blankets may be made with stripes, checks, or in plain colors. Crib blankets are small sizes woven specially for cribs and small beds.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4-10 <sup>1</sup> .....	1 4-11	1 77-100	\$18, 994, 779	48 percent. <sup>2</sup>

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.<sup>2</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 25 percent not Jacquard-figured; 30 percent Jacquard-figured. Act of 1922: 25 percent not Jacquard-figured; 45 percent Jacquard-figured. Act of 1930: 30 percent, but not less than 14¼ cents per pound, not Jacquard; 45 percent, Jacquard. Present duty: 30 percent, but not less than 14¼ cents per pound, not Jacquard; 45 percent, Jacquard.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$10, 893, 356	\$534	\$378, 831
1937.....	18, 944, 779	7, 599	485, 848

6. *Industrial concentration and tariff policy*.—Specialized production on a large scale, some side-line production, and establishment of brands account for the concentration. A substantial reduction of the duty would increase imports only moderately and would lower prices slightly.

#### COTTON TOWELING (PLAIN WOVEN)

1. *Description and use*.—Plain woven cotton towels and toweling are largely crash, glass, and dish towels. Some of them are made with cotton warp and linen filling.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	15	76	\$6, 560, 802	25 percent.

3. *Recent tariff history*.—Act of 1913: 25 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$4, 288, 727	\$10, 809	( <sup>1</sup> )
1937.....	6, 560, 802	202, 540	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Specialized production on a large scale, some side-line production, and establishment of brands account largely for the concentration. Removal of the duty would increase imports only moderately and would lower prices slightly.

## COTTON TOWELING (DAMASK AND OTHER JACQUARD-WOVEN)

1. *Description and use.*—Cotton toweling, which is damask or Jacquard-woven, includes towels made with intricate floral designs, or border designs, or with names woven in by Jacquard attachments.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	1 90	\$993, 582	40 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 40 percent ad valorem.<sup>13</sup> Present duty: 40 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	( <sup>1</sup> )	\$21, 317	( <sup>1</sup> )
1937.....	\$993, 582	48, 410	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, establishment of brands, and size of market account largely for the concentration; a substantial reduction of the duty would increase imports moderately and would lower prices.

## TURKISH AND TERRY-WOVEN TOWELS AND TOWELING (INCLUDES HUCK TOWELS AND TOWELING)

1. *Description and use.*—Terry towels and toweling are made with a warp-pile which consists of small uncut loops. This construction increases the absorption properties of the towel. Huck towels are woven with a huckaback weave in which small filling floats form the pattern on the falls of the cloth.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
26.....	29	78	\$26, 464, 753	40 percent.

<sup>13</sup> Duty reduced temporarily to 30 percent by the Czechoslovak trade agreement, April 1938 to April 1939.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 40 percent terry-woven; 25 percent huck-woven. Act of 1930: 40 percent terry-woven; 25 percent huck-woven. Present duty: 30 percent, terry towels valued at more than 45 cents each,<sup>14</sup> remainder at 40 percent; 25 percent, huck-woven.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	(1)	\$27,840	(1)
1937.....	\$26,464,753	104,600	(1)

<sup>1</sup> Not available.

<sup>2</sup> Terry-woven cloth only.

6. *Industrial concentration and tariff policy.*—Some specialized production on a large scale and establishment of brands account largely for the concentration. A substantial reduction of the duties would increase imports moderately and would lower prices.

#### COTTON WASHCLOTHS

1. *Description and use.*—Cotton washcloths are small squares cut from fabric, usually terry-woven, with or without borders.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	18	81	\$3,269,361	40 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 40 percent ad valorem. Present duty: 40 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1,826,810	(1)	(1)
1937.....	3,269,361	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production, some side-line production, and establishment of brands account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices.

<sup>14</sup> United Kingdom trade agreement, effective January 1, 1939.

## COMBED OR PART-COMBED COTTON GOODS

1. *Description and use.*—Combed or part-combed cotton goods include twills, sateens, and moleskins. They comprise such fabrics as khaki, gabardine, coutils, venetians. These cloths are used in the manufacture of uniforms, linings, umbrellas, and wearing apparel.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 to 15 <sup>1</sup> .....	<sup>1</sup> 7-17	<sup>1</sup> 77-90	\$10,956,238	30 percent. <sup>2</sup>

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

<sup>2</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 10 to 27½ percent ad valorem, depending on kind. Act of 1922: 13 to 30 percent ad valorem, depending on kind. Act of 1930: 14.2 to 41½ percent ad valorem, depending on kind <sup>15</sup> Present duty: 14.2 to 41½ percent ad valorem, depending on kind.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$10,956,238	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Side-line production by a few large manufacturers of cotton goods, some specialization, and size of market for the different types included account largely for the concentration. A substantial reduction of the duty would increase imports and would lower prices.

## PAJAMA CHECKS AND COMBED OR PART-COMBED DIMITIES

1. *Description and use.*—Pajama checks are open-weave fabrics with cord effects in both warp and filling and are made from carded print-cloth yarns. Dimities are light-weight open-weave fabrics with cord effects running warp-wise in the cloth. These fabrics are used in the manufacture of underwear, dresses, curtains, bedspreads, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 and 11.....	{ 7 12 }	<sup>1</sup> 90	\$4,205,772	30 percent. <sup>1</sup>

<sup>1</sup> Estimated.

<sup>15</sup> Rate reduced to 10½ to 32½ percent ad valorem on cloths valued at over 70 cents per pound. United Kingdom trade agreement, effective January 1, 1939.



3. *Recent tariff history.*—Act of 1913: 12½ to 15 percent ad valorem depending on kind. Act of 1922: 17 to 30 percent ad valorem depending on kind. Act of 1930: 19.8 to 38 percent ad valorem depending on kind. Present duty: 19.8 to 38 percent ad valorem depending on kind.<sup>16</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 779, 787	(1)	(1)
1937.....	4, 205, 772	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Side-line production by a few manufacturers of cotton goods and size of market account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### COTTON PLAIDS AND SEERSUCKERS

1. *Description and use.*—Plaids and seersuckers are medium-fine cotton fabrics, the former in check patterns and the latter in checks or stripes. They are used in the manufacture of wearing apparel for men, women, and children, principally outerwear for summer seasons.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 and 8.....	{ 7 8 }	1 90	\$1, 871, 565	30 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 12½ to 22½ percent ad valorem depending on kind. Act of 1922: 23¾ to 35.6 percent ad valorem depending on kind. Act of 1930: 25.2 to 38.5 percent ad valorem depending on kind. Present duty: 25.2 to 38.5 percent ad valorem depending on kind.<sup>17</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$1, 871, 565	(1)	(1)

<sup>1</sup> Not available.

<sup>16</sup> Rates reduced to 14½ to 27½ percent ad valorem on cloths valued over 70 cents per pound, United Kingdom trade agreement, effective January 1, 1939.

<sup>17</sup> Rates reduced to 20 to 29½ percent ad valorem on cloth valued over 90 cents per pound, United Kingdom trade agreement, effective January 1, 1939.

6. *Industrial concentration and tariff policy.*—Side-line production by a few manufacturers of cotton goods and shrinkage of the market in recent years account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### COTTON OUNCE AND NUMBERED DUCK (EXCEPT TIRE DUCK)

1. *Description and use.*—Duck is a heavy cotton fabric made from single yarns in both warp and filling and also from plied yarns. Duck is used for such items as tents, awnings, tarpaulins, conveyor belting, filter cloths, sails, and for various mechanical goods.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8 <sup>1</sup> .....	18	<sup>2</sup> 78-85	\$9,860,231	14 percent.

<sup>1</sup> Estimated.

<sup>2</sup> Indicates variation in concentration for the types included.

3. *Recent tariff history.*—Act of 1913: 7½ to 10 percent ad valorem depending on kind. Act of 1922: 11¼ to 13¾ percent ad valorem depending on kind. Act of 1930: 11¾ to 15¼ percent ad valorem depending on kind. Present duty: 11¾ to 15¼ percent ad valorem depending on kind.

4. *Average ad valorem equivalent.*—1934, 14 percent; 1937, 14 percent.

#### 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935 .....	\$8,548,095	(1)	\$147,579
1937 .....	9,860,231	(1)	206,296

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, manufacture in part according to specifications, and establishment of brands account largely for the concentration. Removal of the duty would probably have only a minor effect on the import-domestic price situation.

#### COTTON TABLE DAMASK

1. *Description and use.*—Cotton damask is a woven-figured, single fabric having warp-sateen figures on a filling-sateen ground, or vice versa. Table damask is made chiefly into tablecloths, napkins, runners, and doilies.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	15	77	\$2,980,205	30 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.<sup>18</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,319,713	\$378,513	\$85,215
1937.....	2,980,205	1,434,028	66,720

6. *Industrial concentration and tariff policy.*—Specialized production, some side-line production, and shrinkage of the market probably account for the concentration. A substantial reduction of the duty would increase imports and would lower prices.

## BIRD'S-EYE DIAPER CLOTH

1. *Description and use.*—Bird's-eye diaper cloth is a bleached fabric woven with a diamond or bird's-eye design. It is made of medium warp yarn and coarse filling. This fabric is often napped to give a soft flannel finish.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	10	85	\$2,050,829	20 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 12½ to 15 percent ad valorem depending on classification. Act of 1922: 17½ to 18¼ percent ad valorem depending on classification. Act of 1930: 19.3 to 20.35 percent ad valorem depending on classification. Present duty: 19.3 to 20.35 percent ad valorem depending on classification.<sup>19</sup>

4. *Average ad valorem equivalent.*—None.

<sup>18</sup> A small reduction of the duty existed under the Czechoslovak trade agreement, April 1938 to April 1939.

<sup>19</sup> Cloths valued at 80 cents or more per pound, 14.5 to 15¼ percent ad valorem. United Kingdom trade agreement, effective January 1, 1939.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1,653,378	(1)	(1)
1937.....	2,050,829	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Some specialized production on a moderate scale, side-line production, and size of market account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices.

## COTTON TIRE FABRICS (SQUARE-WOVEN CONSTRUCTION)

1. *Description and use.*—Tire fabrics are cotton cloths which, together with rubber, are used in the manufacture of tires for automobiles, trucks, motorcycles, and bicycles.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	13	82	\$3,288,816	25 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$3,288,816	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production, some side-line production, contractual selling, shrinkage of the market (cord now used more commonly) account largely for the concentration. Removal of the duty would probably have only a minor effect on the import-domestic price situation.

## COTTON GAUZE, TOBACCO AND CHEESE CLOTH (THREAD COUNT 36 BY 32 AND LOWER)

1. *Description and use.*—Gauze, tobacco and cheese cloth are plain-woven cloths of open construction, grey or bleached. These cloths are used for a variety of purposes including covering for tobacco plants, surgical gauze, bandages, and dusting cloths.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
21.....	31	77	\$17,856,443	23 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 12½ to 15 percent ad valorem depending on kind. Act of 1922: 17 to 22 percent ad valorem depending on kind. Act of 1930: 19.8 to 25.25 percent ad valorem depending on kind. Present duty: 19.8 to 25.25 percent ad valorem depending on kind.<sup>20</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$12,763,186	(1)	(1)
1937.....	17,856,443	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale and side-line production by a few manufacturers of cotton goods account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

## WOOLEN AND WORSTED FABRICS

1. *Description and use.*—Woolen and worsted fabrics include here only those for men's suits, overcoats, and topcoats; women's coats, suits, and dresses; and interlinings without horsehair.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 to 15 <sup>1</sup> .....	13-16	177-100	\$10,579,089	87 percent.

<sup>1</sup> Range cited indicates variation in companies, plants, and concentration, for the above classes.

3. *Recent tariff history.*—Act of 1913: 35 percent ad valorem. Act of 1922: 24, 37, and 45 cents per pound plus 40 and 50 percent depending on value. Act of 1930: 50 cents per pound plus 50, 55, and 60 percent depending on value. Present duty: 40 cents per pound plus 45 percent.<sup>21</sup> 50 cents per pound plus 40 percent. 50 cents per pound plus 35 percent.

<sup>20</sup> Rates reduced to 14½ to 18¾ percent ad valorem on cloths valued over 70 cents, United Kingdom trade agreement, effective January 1, 1939.

<sup>21</sup> Trade agreement with the United Kingdom, effective January 1, 1939.

4. *Average ad valorem equivalent*.—1934, 86 percent; 1935, 88 percent; 1936, 88 percent; 1937, 87 percent; 1938, 88 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports <sup>2</sup>	Exports <sup>2</sup>
1935.....	(1)	\$4,675,197	339,026
1937.....	\$40,579,089	8,836,570	374,471

<sup>1</sup> Not available.

<sup>2</sup> Includes all woolen and worsted fabrics.

6. *Industrial concentration and tariff policy*.—Although there are 508 establishments producing varied products valued at \$541,000,000 in 1937, specialization and side-line production apparently account for the concentration in the above products. Imports consist mainly of fine woollens and worsteds. The specific rates of the compound duty are compensatory for the duty on raw wool. A substantial reduction in the duty, including the duty on raw wool, would increase imports greatly and would lower prices appreciably.

#### BILLIARD CLOTHS

1. *Description and use*.—Billiard cloths are made of woolen material. They are used to cover billiard and pool tables.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 <sup>1</sup> .....	13	100	\$663,660	70 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 35 percent. Act of 1922: 24 cents to 45 cents per pound plus 40 to 50 percent ad valorem.<sup>22</sup> Act of 1930: 50 cents per pound plus 50 to 60 percent ad valorem. Present duty: 50 cents per pound plus 40 percent ad valorem.<sup>23</sup>

4. *Average ad valorem equivalent*: 1935, 69 percent; 1936, 68 percent; 1937, 70 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$601,841	\$47,024	(1)
1937.....	663,660	84,828	(1)

<sup>1</sup> Not separately reported.

<sup>22</sup> Specific duty applies to wool content only.

<sup>23</sup> Belgian trade agreement, effective May 1, 1935



6. *Industrial concentration and tariff policy.*—Although many plants are equipped to produce billiard cloth, apparently only a few specialize in its manufacture. Imports are of a higher quality than the bulk of domestic production. A substantial reduction of the duty would probably increase imports and would lower prices.

#### AUTO CLOTHS (WITH PILE)

1. *Description and use.*—Auto cloths, with pile, are made of mohair and wool pile with a cotton foundation. They are used for the upholstery of automobiles.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	10	1 90	\$30, 112, 784	79 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 40 and 45 percent ad valorem. Act of 1922: 40 cents a pound and 50 percent ad valorem. Act of 1930: 44 cents a pound and 50 or 55 percent ad valorem. Present duty: 44 cents a pound and 40 percent ad valorem.<sup>24</sup>

4. *Average ad valorem equivalent.*—1934, 72 percent; 1935, 72 percent; 1936, 73 percent; 1937, 79 percent; 1938, 89 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$27, 526, 791	\$27, 993	(2)
1937.....	30, 112, 784	173, 079	(2)

<sup>1</sup> Pile fabrics.

<sup>2</sup> Nil or negligible.

6. *Industrial concentration and tariff policy.*—Specialization, use of special looms and spinning machines, economies of large-scale production, and contractual selling account largely for the concentration. Imports consist of pile fabrics mostly for women's wear. A substantial reduction of the duty, including the duty on raw wool, would increase imports and would lower prices.

<sup>24</sup> Trade agreement with the United Kingdom, January 1, 1939.

## OILED WATERPROOF OUTER GARMENTS

1. *Description and use.*—Oiled waterproof outer garments are usually those garments made to shed water or snow. Such garments include "slickers" and coats and trousers used largely by fishermen or other seafaring men.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	15	87	\$3, 673, 380	37½ percent.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 35 percent ad valorem. Act of 1930: 37½ percent ad valorem. Present duty 37½ percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$3, 673, 380	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production, some side-line production, and size of market account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

## JUTE YARNS

1. *Description and use.*—Jute yarns spun for sale, as such, are used principally in the manufacture of wool carpets and rugs. They are used as backing and do not show on the surface.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
61.....	18	175	\$14, 787, 400	54 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 to 20 percent ad valorem depending on size. Act of 1922: 2½ to 7 cents per pound depending on size. Act of 1930: 2½ to 7 cents per pound depending on size. Present duty: 2½ to 7 cents per pound depending on size.

4. *Average ad valorem equivalent.*—1935, 48 percent; 1936, 60 percent; 1937, 54 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$11,022,995	\$606	( <sup>2</sup> )
1937.....	14,787,400	335,749	( <sup>2</sup> )

<sup>1</sup> Includes small quantities of flax and hemp yarns.

<sup>2</sup> Negligible.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, size of market, and financial resources and integration account largely for the concentration. The principal company owns mills in India. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### BAGGING FOR BALING COTTON

1. *Description and use.*—Bagging for baling cotton is a coarse fabric, usually of jute, which is used to wrap bales of raw cotton.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 <sup>1</sup> .....	17	185	\$5,830,568	13 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: ⅓ cent per square yard, 15 to 32 ounces; ⅓ cent per pound over 32 ounces. Act of 1930: ⅓ cent per square yard, 15 to 32 ounces; ⅓ cent per pound over 32 ounces. Present duty: ⅓ cent per square yard, 15 to 32 ounces; ⅓ cent per pound over 32 ounces.<sup>25</sup>

4. *Average ad valorem equivalent.*—1934, 13 percent; 1935, 15 percent; 1936, 14 percent; 1937, 13 percent; 1938, 11 percent.

5. *Domestic production, imports, and exports.*

Year	Domestic production	Imports	Exports
1935.....	\$2,837,733	\$457,611	( <sup>1</sup> )
1937.....	5,830,568	743,827	( <sup>1</sup> )

<sup>1</sup> Not available, probably none.

<sup>25</sup> Three-tenths of a cent per pound rate for bagging over 32 ounces per square yard bound by terms of United Kingdom trade agreement, effective Jan. 1, 1939.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, size of market, and financial resources and integration account largely for the concentration. The principal company owns mills in India which were established when the act of 1913 placed this product on the free list. Removal of the duty would increase imports substantially and would lower prices moderately.

#### LINOLEUM AND CORK CARPET (OTHER THAN INLAID)

1. *Description and use.*—Linoleum is one of the more important hard-surface floorings and is produced in several qualities, both plain and printed. Cork carpet is similar to linoleum, but contains a higher proportion of cork and is more resilient and sound-deadening.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 to 4 <sup>1</sup> .....	13-4	100	\$9,505,067	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies and plants.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 35 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>26</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$5,095,349	\$275,000	( <sup>2</sup> )
1937.....	9,505,067	327,000	( <sup>2</sup> )

<sup>1</sup> Estimated.

<sup>2</sup> Not separately reported but negligible.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, consolidations, and establishment of brands account for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### INLAID LINOLEUM

1. *Description and use.*—Inlaid linoleum is of two types: The straight-line, and the molded. Straight-line linoleum is made by pressing die-cut shapes of different colors on a burlap base; molded linoleum is made by pressing on a burlap base assorted colors of linoleum mix in granulated form which have been arranged to form designs.

<sup>26</sup> United Kingdom trade agreement, effective Jan. 1, 1939.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$20,069,307	42 percent.

3. *Recent tariff history.*—Act of 1913: 35 percent ad valorem. Act of 1922: 35 percent ad valorem. Act of 1930: 42 percent ad valorem. Present duty: 32 percent ad valorem.<sup>8</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$13,193,369	\$261,579	\$40,000
1937.....	20,069,307	173,596	105,000

<sup>1</sup> Estimated.

6. *Industrial concentration and tariff policy.*—Specialization, economics of large-scale production, consolidations, establishment of brands, and patents account for the concentration. Imports in 1935 consisted principally of the straight-line types and were of lighter gages than the domestic product. A substantial reduction of the duty would increase imports moderately and would lower prices.

## ASPHALTED FELT-BASE RUGS

1. *Description and use.*—Asphalted felt-base rugs are made by printing complete rug designs on felt-base piece goods, cut to appropriate rug sizes. Also included is a minor item: Floor coverings narrower than 8/4.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8 to 9 <sup>1</sup> .....	19-12	275	\$19,407,794	40 percent.

<sup>1</sup> Ranges cited indicate variation in number of companies and plants.

<sup>2</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Not available. Act of 1922: 40 percent ad valorem. Act of 1930: 40 percent ad valorem. Present duty: 25 percent ad valorem.<sup>27</sup>

4. *Average ad valorem equivalent.*—None.

<sup>27</sup> United Kingdom trade agreement, effective January 1, 1939

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$17, 315, 799	(1)	(1)
1937.....	19, 407, 794	(1)	(1)

<sup>1</sup> Not separately recorded, but small.

6. *Industrial concentration and tariff policy.*—Specialized production and an early patent account largely for the concentration. Although the patent has expired, the company which owned it and a few licensees remain the principal producers. The recent reduction of the duty on all asphalted felt-base floor coverings will probably increase imports moderately and will lower prices slightly.



## GROUP C: WOOD AND PAPER PRODUCTS

### CORK INSULATION

1. *Description and use.*—Cork insulation includes blocks, slabs, pipe covering, etc. It is made of compressed, ground cork.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	10	87	\$8, 283, 683	93 percent.

3. *Recent tariff history.*<sup>1</sup>—Act of 1913: ¼ cent per pound. Act of 1922: 30 percent ad valorem. Act of 1930: 2.5 cents per board-foot for blocks, slabs, etc.; 5 cents per pound for pipe covering, etc. Present duty: 2.5 cents per board-foot for blocks, slabs, etc.; 5 cents per pound for pipe covering, etc.

4. *Average ad valorem equivalent.*—1934, 87 percent; 1935, 62 percent; 1936, 91 percent; 1937, 93 percent; 1938, 32 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$4, 490, 380	\$5, 147	( <sup>1</sup> )
1937.....	8, 283, 683	76, 400	\$94, 078

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and patents during the early stages of development account largely for the concentration. The principal domestic producers are also the principal importers from branch plants abroad. A substantial reduction of the duty would probably increase imports moderately and would lower prices slightly.

### CORK STOPPERS

1. *Description and use.*—Cork stoppers are made of either natural or composition cork in two general types, straight or tapered. They consist mostly of tapered corks made of natural cork in various sizes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
17.....	17	81	\$3, 680, 370	34 percent.

<sup>1</sup> Cork bark and waste, free of duty.

3. *Recent tariff history.*<sup>2</sup>—Act of 1913: 12 and 15 cents per pound depending on size; shell corks, 30 percent ad valorem. Act of 1922: 10, 12.5, 20, and 25 cents per pound, depending on size; shell corks 30 percent ad valorem. Act of 1930: 10, 12.5, 25, and 31 cents per pound, depending on size; shell corks 75 cents per pound. Present duty: 10, 12.5, 25, and 31 cents per pound depending on size; shell corks 75 cents per pound.

4. *Average ad valorem equivalent.*—1934, 30 percent; 1935, 33 percent; 1936, 34 percent; 1937, 34 percent; 1938, 28 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,429,414	\$166,627	\$42,437
1937.....	3,680,370	206,197	105,266

6. *Industrial concentration and tariff policy.*—Specialization and economies of large-scale production account largely for the concentration. Two of the largest companies produce a full line of cork products and own factories abroad. A substantial reduction of the duty would increase imports moderately and would lower prices especially on the high-grade small-size stoppers.

#### CORK GASKETS

1. *Description and use.*—Cork gaskets, disks, wafers, and washers are made from natural and composition cork, mostly the latter, in a wide variety of sizes and shapes. Disks and wafers are used principally as liners for crown caps.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	1 85	\$2,060,480	33 percent

<sup>1</sup> Estimated.

3. *Recent tariff history.*<sup>2</sup>—Act of 1913: 12 and 15 cents per pound: 30 percent ad valorem (gaskets). Act of 1922: 10, 12.5, 20, and 25 cents per pound; 30 percent ad valorem (gaskets). Act of 1930: 12.5, 16, 25 cents per pound and 45 percent ad valorem depending on size and composition of disks, wafers, and washers, 16 cents per pound (gaskets). Present duty: 12.5, 16, 25 cents per pound and 45 percent ad valorem depending on size and composition of disks, wafers, and washers, 16 cents per pound (gaskets).

4. *Average ad valorem equivalent.*—1934, 25 percent; 1935, 27 percent; 1936, 30 percent; 1937, 33 percent; 1938, 35 percent.

<sup>1</sup> Cork bark and waste, free of duty.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 618, 628	\$15, 858	\$267, 926
1937.....	2, 060, 480	69, 399	321, 612

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and patents with regard to composition cork account largely for the concentration. These products are made mostly to specification. A substantial reduction of the duty would probably have only a moderate effect on the import-domestic price situation.

## OTHER CORK PRODUCTS

1. *Description and use.*—Other cork products include paper, tile, marine goods, penholder grips, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
19.....	22	85	\$6, 082, 011	34 percent.

3. *Recent tariff history.*<sup>3</sup>—Act of 1913: 3 and 4 cents per pound; 25, 30, and 35 percent ad valorem. Act of 1922: 6, 8, and 10 cents per pound; 25 and 30 percent ad valorem. Act of 1930: 1, 3, 6, 8, 10, 16 cents, and \$2 per pound; 30 and 45 percent ad valorem. Present duty: 1, 3, 6, 8, 10, 16 cents, and \$2 per pound; 30 and 45 percent ad valorem.

4. *Average ad valorem equivalent.*—1934, 32 percent; 1935, 33 percent; 1936, 33 percent; 1937, 34 percent; 1938, 35 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 769, 882	(1)	(1)
1937.....	6, 082, 011	\$245, 176	<sup>2</sup> \$420, 450

<sup>1</sup> Not available.

<sup>2</sup> Not strictly comparable.

6. *Industrial concentration and tariff policy.*—Specialization and economies of large-scale production account for the concentration. Two of the largest companies produce a full line of cork products and own factories abroad. A substantial reduction of the duties would increase imports moderately and would lower prices, especially of certain specialty items.

<sup>3</sup> Cork bark and waste, free of duty.

## DISSOLVING PULPS

1. *Description and use.*—Dissolving pulps are grades of wood pulp used for conversion into synthetic textile yarns and filaments, transparent cellulose sheeting, and various compounds of cellulose such as plastics, lacquers, and finishes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 <sup>1</sup> .....	16	100	\$23, 871, 039	Free.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.<sup>4</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$11, 987, 887	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	23, 871, 039	\$6, 593, 678	( <sup>1</sup> )

<sup>1</sup> Not available but substantial.

6. *Industrial concentration and tariff policy.*—Specialization, experimentation, economies of large-scale production, and size of market relative to paper pulp account for the concentration. Imports are chiefly from a mill in eastern Canada. Dissolving pulps were bound on the free list in the second trade agreement with Canada.

## MATCHES (STRIKE ANYWHERE)

1. *Description and use.*—Matches of the strike-anywhere type consist of the large, household size packed in large boxes and the smoker's size packed in small boxes. They may be ignited by striking on the side of the box or on other surfaces.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	14	82	\$18, 328, 406	No imports.

<sup>4</sup> Bound free, Canadian trade agreement, effective January 1, 1939.

3. *Recent tariff history.*—Act of 1913:  $\frac{3}{8}$  cent per 1,000 (large size); 3 cents per gross boxes (small size). Act of 1922:  $\frac{3}{4}$  cent per 1,000 (large size); 8 cents per gross boxes (small size). Act of 1930:  $2\frac{3}{4}$  cents per 1,000 (large size); 20 cents per gross boxes (small size). Present duty:<sup>5</sup>  $2\frac{3}{4}$  cents per 1,000 (large size);  $17\frac{1}{2}$  cents per gross boxes (small size).

4. *Average ad valorem equivalent.*—No imports, 1934–38.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$19,877,011	None	(1)
1937.....	18,328,406	None	(1)

<sup>1</sup> Not reported separately, but negligible.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources and integration, and patents on match-making machinery (one of the largest companies) account for the concentration. The principal producers own and operate timber lands for their wood requirements. This type of match is not produced extensively abroad. Reduction or removal of the duties would probably have a very minor effect on the import-domestic price situation.

#### MATCHES (STRIKE ON BOX)

1. *Description and use.*—Matches of the strike-on-box type have plain, wooden stems about 2 inches in length and are usually ignited only by striking the match on a prepared surface of the box. They are packed in small boxes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	10	1 90	\$3,357,932	100 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 3 cents per gross boxes. Act of 1922: 8 cents per gross boxes. Act of 1930: 20 cents per gross boxes. Present duty:  $17\frac{1}{2}$  cents per gross boxes.<sup>6</sup>

4. *Average ad valorem equivalent.*—1934, 94 percent; 1935, 116 percent; 1936, 106 percent; 1937, 100 percent; 1938, 84 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$4,112,409	\$384,708	(1)
1937.....	3,357,932	281,996	(1)

<sup>1</sup> Not reported separately, but small.

<sup>6</sup> Swedish trade agreement, effective August 5, 1935.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources and integration, and patents on match-making machinery account for the concentration. About half of the imports are Swedish matches which are controlled by the Diamond Match Co. through an exclusive agency contract with the Swedish producers. The remainder are from Union of Soviet Socialist Republics and Japan which are low-grade matches. A substantial reduction of the duty would increase imports moderately and would probably lower prices slightly.

## BOOK MATCHES

1. *Description and use.*—Matches in books have paper stems and are attached in a paper cover. They are ignited by striking on a papered surface of the cover. Many are used as an advertising medium.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	16	87	\$9, 186, 145	40 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 40 percent ad valorem. Present duty: 40 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$6, 424, 752	\$5, 821	(?)
1937.....	9, 186, 145	6, 877	(?)

<sup>1</sup> Principally book matches.

<sup>2</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Side-line production by two of the large manufacturers of other matches, specialized production, and marketing facilities for selling book-match-cover advertising account largely for the concentration. A substantial reduction of the duty would have very little effect on the import-domestic price situation.

## WRAPPING PAPER

1. *Description and use.*—Wrapping paper included here consists of bleached sulphite and bleached sulphate, machine glazed; and envelope manila. It is used for wrapping various types of merchandise, and in making bags, gummed tape, and envelopes.



2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8 to 14 <sup>1</sup> .....	<sup>1</sup> 10-17	<sup>1</sup> 78-82	\$6, 415, 620	20 and 25 percent. <sup>2</sup>

<sup>1</sup> Ranges cited indicate variation in concentration, companies, and plants for the above items.<sup>2</sup> Sulphate only.

3. *Recent tariff history.*—Act of 1913: 25 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 25 percent;<sup>6</sup> 20 percent, sulphate only.<sup>7</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	\$6, 415, 620	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and size of market account for the concentration. A substantial reduction of the duty would probably increase imports moderately, especially of machine-glazed wrapping paper, and would lower prices slightly in coastal areas.

## KRAFT WRAPPING PAPER (MACHINE GLAZED)

1. *Description and use.*—Machine-glazed kraft wrapping paper includes wrapping paper which is glazed on special machines and sold without further fabrication. Bag paper is not included.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	7	<sup>1</sup> 90	\$2, 909, 588	20 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 30 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 20 percent.<sup>7</sup>

4. *Average ad valorem equivalent.*—None.

<sup>6</sup> Swedish trade agreement, effective August 5, 1935.<sup>7</sup> Finnish trade agreement, effective November 2, 1936.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(2)
1937.....	\$2, 909, 588	\$701, 502	(2)

<sup>1</sup> Not separately reported.<sup>2</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialization and size of market account for the concentration. Imports include more than kraft wrapping paper. A substantial reduction of the duty would probably increase imports moderately and would lower prices slightly.

## CONTAINER BOARD (OTHER THAN LINERS, CHIP OR STRAW)

1. *Description and use.*—Container paperboard is a homogeneous or solid board of various thicknesses with a machine finish and is made of chestnut or manila fiber. It is used for corrugating or for making light containers and separators.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	12	91	\$3, 423, 586	10 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent. Act of 1922: 10 percent. Act of 1930: 10 percent. Present duty: 10 percent.

4. *Average ad valorem equivalent.*—None.5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	\$285, 098	(1)
1937.....	\$3, 423, 586	573, 480	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Byproduct manufacture accounts largely for the concentration. Large mills which remove tannin from chestnut wood use the spent wood for the manufacture of chestnut fiberboard. Imports consist of a special type of board. Removal of the duty would not appreciably affect the import-price situation.

## BINDER BOARD

1. *Description and use.*—Binder board is a rigid single-ply heavy board commonly made from mixed papers and rags; it is used primarily for bookbinding, and also for automobile panels, buttons, toys, games, and similar items.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	13	92	\$3, 620, 887	10 percent.

3. *Recent tariff history.*—Act of 1913: No appropriate tariff paragraph. Act of 1922: 10 percent. Act of 1930: 10 percent. Present duty: 10 percent.<sup>8</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$4, 351, 752	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	3, 620, 887	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not separately reported, but small.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and size of market account largely for the concentration. The few imports are probably specialties. Elimination of the duty would have no appreciable effect on the import-domestic price situation.

## LEATHERBOARD

1. *Description and use.*—Leatherboard is a solid board made from scrap leather and may or may not contain manila, jute, or paper clippings. It is used for shoe counters and boxes and in the manufacture of slippers.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	10	79	\$2, 238, 888	10 percent.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: 10 percent. Act of 1930: 10 percent. Present duty: 10 percent.<sup>8</sup>

4. *Average ad valorem equivalent.*—None.

<sup>8</sup> Rate bound, Swedish trade agreement, effective August 5, 1935; Finnish trade agreement, effective November 2, 1936.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 156, 678	(1)	(2)
1937.....	2, 238, 888	(1)	(2)

<sup>1</sup> Not separately shown.<sup>2</sup> Negligible.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and size of market account largely for the concentration. Substantial reduction of the duty would increase imports and would lower prices.

## CIGARETTE PAPER

1. *Description and use.*—Cigarette paper is a high-grade tissue paper made from linen rags, old netting, flaxtow, cotton rags, and waste. It is produced on bobbins for use in cigarette machines, and in flat sheets which are cut and assembled into folders and books for hand-rolled cigarettes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3.....	4	100	<sup>1</sup> \$1, 750, 000	45 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 50 percent ad valorem. Act of 1922: 60 percent ad valorem. Act of 1930: 60 percent ad valorem. Present duty: 45 percent ad valorem.<sup>9</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$1, 500, 000	\$3, 290, 784	(2)
1937.....	1, 750, 000	38, 74, 925	(2)

<sup>1</sup> Estimated.<sup>2</sup> Not available, but substantial.

6. *Industrial concentration and tariff policy.*—Specialization by a few manufacturers of fine tissue and the preference of the large manufacturers of cigarettes for imported paper account largely for the concentration. One large cigarette company owns a paper mill in France. The domestic product (bobbins and sheets) is used by the smaller independent cigarette companies and is exported. Imports are chiefly bobbins. A large new domestic mill has increased domestic capacity to an estimated 75 percent of consumption. A substantial reduction of the duty would increase imports and would lower prices.

<sup>9</sup> French trade agreement, effective June 15, 1936.

## VEGETABLE PARCHMENT

1. *Description and use.*—Vegetable parchment is a waterproof and greaseproof sheet made by passing waterleaf through sulfuric acid, neutralizing, washing, and pressing. It is used for fine printing, lampshades, decorative articles, and for wrapping certain foods which, because of moisture, would disintegrate other paper.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 <sup>1</sup> .....	13	100	\$1,962,140	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 35 percent ad valorem. Act of 1922: 3 cents per pound, plus 15 percent ad valorem. Act of 1930: 3 cents per pound, plus 15 percent ad valorem. Present duty: 2 cents per pound, plus 10 percent ad valorem.<sup>10</sup>

4. *Average ad valorem equivalent.*—1934, 25 percent; 1935, 21 percent; 1936, 24 percent; 1937, 25 percent; 1938, 25 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1,812,675	\$44,565	(1)
1937.....	1,962,140	61,222	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization and size of market account largely for the concentration. A substantial reduction of the duty would increase imports and lower prices.

## BOOK PAPER (CONTAINING GROUND WOOD)

1. *Description and use.*—Book paper is a machine-finished or super-calendared paper made of ground wood and chemical pulp in proportions different from that in standard newsprint. It is used in printing cheap books and magazines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	14	96	\$15,570,367	21 percent.

<sup>10</sup> Belgian trade agreement, effective May 1, 1935; Finnish trade agreement, effective November 2, 1936.

3. *Recent tariff history.*—Act of 1913: 12 percent if valued above 2½ cents per pound.<sup>11</sup> Act of 1922: one-fourth cent per pound, plus 10 percent. Act of 1930: one-fourth cent per pound, plus 10 percent. Present duty: one-fifth cent per pound, plus 5 percent.<sup>12</sup>

4. *Average ad valorem equivalent.*—1934, 22 percent; 1935, 22 percent; 1936, 22 percent; 1937, 21 percent; 1938, 19 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$13,591,557	(1)	(1)
1937.....	15,570,367	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Side-line production by large mills making other book-paper accounts for the concentration. A substantial reduction of the duty would increase imports and would lower prices.

<sup>11</sup> Value bracket changed to 5 cents per pound September 8, 1916, and to 8 cents per pound, April 23, 1920.

<sup>12</sup> Canadian trade agreement, effective January 1, 1939.



## GROUP D: CHEMICALS AND ALLIED PRODUCTS

### SOAPS

1. *Description and use.*—Soaps include here practically all kinds: Bar, toilet and cleanser; washing powders, chips and flakes, packaged; granulated, powdered and sprayed; shaving, stick and powder; and bar laundry, yellow and white.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
200 <sup>1</sup> .....	<sup>1</sup> 232	<sup>1</sup> 80	\$271, 803, 486	23 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 5 to 30 percent ad valorem according to kind. Act of 1922: 15 to 30 percent ad valorem according to kind. Act of 1930: 15 to 30 percent ad valorem according to kind. Present duty: 10, 15, 20, and 30 percent ad valorem according to kind.<sup>1</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports <sup>1</sup>
1935.....	\$223, 808, 580	\$1, 122, 036	\$2, 583, 716
1937.....	271, 803, 486	515, 004	3, 200, 233

<sup>1</sup> All soap items.

6. *Industrial concentration and tariff policy.*—Economies of large scale production, buying and marketing facilities, and establishment of brands account largely for the concentration. Imports consist mostly of castile and perfumed soaps, saddle soap, and bulk soap millings. Removal of the duty would increase imports moderately and would lower prices of certain kinds appreciably.

### CAFFEINE

1. *Description and use.*—Caffeine is an alkaloid obtained by extraction from tea, coffee, or maté leaves; or is produced synthetically from theobromine (an alkaloid in cocoa cake). It is a soft white crystalline product and is used principally in medicines and soft drinks.

<sup>1</sup> Toilet soap valued at more than 20 cents per pound, 20 percent; lather soap, including saddle soap, n. s. p. f., 10 percent. United Kingdom trade agreement, effective January 1, 1939. The excise tax on oils applies to soaps as a compensatory duty.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 .....	6	1 90	\$1, 344, 772	209 percent. <sup>2</sup>

<sup>1</sup> Estimated.<sup>2</sup> For 1932. Imports are small and irregular.

3. *Recent tariff history.*—Act of 1913: \$1 per pound of caffeine. Act of 1922: \$1.50 per pound of caffeine. Act of 1930: \$1.25 per pound of caffeine. Present duty: 90 cents per pound of caffeine.<sup>2</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$910, 956	None	(1)
1937.....	1, 344, 772	None	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production, some byproduct manufacture, and a few large buyers account largely for the concentration. A substantial reduction of the duty would probably increase imports and lower prices.

## AMYL ACETATE

1. *Description and use.*—Amyl acetate is an ester used as a solvent for cellulose compounds, especially for lacquers, and in the production of flavoring extracts and perfumes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	9	1 80	\$1, 188, 779	26 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 5 cents per pound. Act of 1922: 25 percent ad valorem. Act of 1930: 7 cents per pound. Present duty: 4 cents per pound.<sup>2</sup>

4. *Average ad valorem equivalent.*—1934, 24 percent; 1935, 28 percent; 1936, 19 percent; 1937, 26 percent; 1938, 25 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$789, 293	\$57	(1)
1937.....	1, 188, 779	63	\$45, 013

<sup>1</sup> Not available.<sup>2</sup> Netherlands trade agreement, effective February 1, 1936.

6. *Industrial concentration and tariff policy.*—Production by the large manufacturers of industrial chemicals and size of market account largely for the concentration. Removal of the duty would increase imports very moderately and would lower prices slightly.

## BUTYL ACETATE

1. *Description and use.*—Butyl acetate is an ester used largely as a solvent for nitrocellulose, for other cellulose products, and for gums and resins.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	9	87	\$5, 084, 985	21 percent. <sup>1</sup>

<sup>1</sup> June 18 to Dec. 31, 1930.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 7 cents per pound. Present duty: 7 cents per pound.

4. *Average ad valorem equivalent.*—No imports during the period 1931–38.

5. *Domestic production, imports, and exports.*—

Year	Domestic <sup>1</sup> production	Imports	Exports
1935.....	\$3, 686, 689	None	(?)
1937.....	5, 084, 985	None	(?)

<sup>1</sup> Production for sale and interplant transfer.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Production by the large manufacturers of heavy industrial chemicals accounts for the concentration. The present duty is apparently prohibitive. A substantial reduction of the duty would probably increase imports moderately and would lower prices slightly.

## ACETONE

1. *Description and use.*—Acetone is used in the production of cellulose acetate silks and plastics, for general solvent purposes, and as a raw material for certain chemicals, such as chloroform and iodoform.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	9	185	\$2, 845, 436	20 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 1 cent a pound. Act of 1922: 25 percent ad valorem. Act of 1930: 20 percent ad valorem. Present duty: 20 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,642,149	\$579	\$296,291
1937.....	2,845,436	58	616,333

6. *Industrial concentration and tariff policy.*—Experimentation, technical skill, economies of large-scale production, and size of market account largely for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

#### BORAX (REFINED)

1. *Description and use.*—Refined borax is a term applied to several forms of sodium tetraborate, principally (1) that containing 10 molecules of water, (2) that containing 5 molecules of water, and (3) the anhydrous. Borax is used chiefly in vitreous enamels, glass, glazes, adhesives, and sizing compounds; in water-softening compounds; and in pharmaceuticals.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$3,416,184	5 percent.

3. *Recent tariff history.*—Act of 1913: One-eighth cent per pound. Act of 1922: One-eighth cent per pound. Act of 1930: One-eighth cent per pound. Present duty: One-eighth cent per pound.

4. *Average ad valorem equivalent.*—1934 to 1938, 5 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$3,693,129	\$181	\$1,783,292
1937.....	3,416,184	176	2,593,630

<sup>1</sup> Estimated.

6. *Industrial concentration and tariff policy.*—A high degree of localization of borate ore and restricted ownership of the best deposits account for the concentration. Domestic production constitutes about 90 percent of the world output of crude borates. Imports consist of special grades. Removal of the duty would have no effect on the import-domestic price situation.

## BORIC ACID

1. *Description and use.*—Boric acid is a white crystalline powder used extensively in the ceramics industry, and to some extent in the pharmaceutical and cosmetic industries.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3.....	3	100	\$1,545,304	11 percent.

3. *Recent tariff history.*—Act of 1913: Three-fourths cent per pound. Act of 1922:  $1\frac{1}{2}$  cents per pound. Act of 1930: 1 cent per pound. Present duty: 1 cent per pound.

4. *Average ad valorem equivalent.*—1934, 15 percent; 1935, 16 percent; 1936, 12 percent; 1937, 11 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1,245,874	\$1,884	377,279
1937.....	1,545,304	688	735,208

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale by the few large producers of borates accounts for the concentration. Removal of the duty would have little effect on imports and would lower prices only slightly.

## CHROMIC ACID

1. *Description and use.*—Chromic acid is derived from chromite ore. It is marketed in flakes and crystals and used principally in electroplating.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$1,260,477	25 percent.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$887,842	\$2,198	(1)
1937.....	1,260,477	1,184	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production and size of market account largely for the concentration. Removal of the duty would have a moderate effect on the import-domestic price situation.

## CITRIC ACID

1. *Description and use.*—Citric acid is a highly refined food product consumed principally in medicines and foods.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$4, 118, 513	75 percent.

3. *Recent tariff history.*—Act of 1913: 5 cents per pound. Act of 1922: 17 cents per pound. Act of 1930: 17 cents per pound. Present duty: 17 cents per pound.

4. *Average ad valorem equivalent.*—1934, 120 percent; 1935, 124 percent; 1936, 57 percent; 1937, 75 percent; 1938, 94 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 768, 377	\$79	( <sup>1</sup> )
1937.....	4, 118, 513	197	( <sup>1</sup> )

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, financial resources, and size of market probably account for the concentration. A substantial reduction of the duty would increase imports slightly and would lower prices moderately.

## HYDROCHLORIC ACID

1. *Description and use.*—Hydrochloric acid is a basic chemical used widely in industry and for laboratory purposes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 <sup>1</sup> and 10 <sup>2</sup> .....	{ 119 111}	86	\$3, 987, 974	Free.

<sup>1</sup> From salt.

<sup>2</sup> From chlorine, byproduct, and other.

<sup>3</sup> Combined.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.

4. *Average ad valorem equivalent.*—None.



5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,048,000	\$1,651	\$98,267
1937.....	3,987,974	618	123,455

6. *Industrial concentration and tariff policy.*—Production on a large scale by the principal chemical companies which make other products account for the concentration.

## NITRIC ACID

1. *Description and use.*—Nitric acid is an inorganic acid used largely in organic synthesis and in the manufacture of drugs, dyes, explosives, and nitrocellulose.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937 Free, ad valorem rate, or equivalent
12.....	25	81	\$3,052,576	Free.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,142,817	\$10,858	(1)
1937.....	3,052,576	24,474	(1)

<sup>1</sup> Not separately reported but small.

6. *Industrial concentration and tariff policy.*—Production by a few large manufacturers of heavy chemicals accounts for the concentration. The bulk of their output is not for sale, but is used by them for the manufacture of other products.

## OXALIC ACID

1. *Description and use.*—Oxalic acid is used largely in bleaching various materials, in the dyeing and printing of textiles, as a scouring agent, and as a rust and stain remover in laundries.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$1,086,878	108 percent.

3. *Recent tariff history*.—Act of 1913: 1½ cents per pound. Act of 1922: 4 cents per pound.<sup>3</sup> Act of 1930: 6 cents per pound. Present duty: 6 cents per pound.

4. *Average ad valorem equivalent*.—1934, 116 percent; 1935, 118 percent; 1936, 119 percent; 1937, 108 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$945, 215	\$3, 988	(1)
1937.....	1, 086, 878	12, 124	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Some specialization, production by one or two of the large chemical companies, and size of market account for the concentration. A substantial reduction of the duty would increase imports greatly and would lower prices appreciably.

#### PHOSPHORIC ACID

1. *Description and use*.—The usual commercial grade of phosphoric acid is a colorless sirupy liquid containing 50 to 85 percent acid. Chief uses are in the manufacture of triple superphosphate; in the manufacture of calcium, sodium, ammonium, magnesium, and aluminum phosphates; in soft drinks, and in rust-proofing processes.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	10	85	\$1, 785, 785	3 percent.

3. *Recent tariff history*.—Act of 1913: Free. Act of 1922: 2 cents per pound. Act of 1930: 2 cents per pound. Present duty: 2 cents per pound.

4. *Average ad valorem equivalent*.—1934, 9 percent; 1935, 12 percent; 1936, 3 percent; 1937, 3 percent; 1938, 3 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$1, 333, 702	\$1, 062	(1)
1937.....	1, 785, 785	1, 593	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Technical skill and economies of large-scale production seem to account for the concentration. Recent developments tend to place the production of this product on a tonnage basis. Elimination of the duty would probably increase imports very moderately and would lower prices slightly.

<sup>3</sup> Increased to 6 cents per pound by Presidential proclamation, effective Jan. 28, 1925.

## TARTARIC ACID

1. *Description and use.*—Tartaric acid is used principally in pharmaceuticals and in baking powder.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$2, 484, 625	50 percent.

3. *Recent tariff history.*—Act of 1913: 3½ cents a pound. Act of 1922: 6 cents a pound. Act of 1930: 8 cents a pound. Present duty: 8 cents a pound.

4. *Average ad valorem equivalent.*—1934, 36 percent; 1935, 45 percent; 1936, 57 percent; 1937, 50 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 609, 027	\$2, 610	(1)
1937.....	2, 484, 625	52, 197	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization and marketing facilities account largely for the concentration. Raw materials—argols, wine lees, and calcium tartrate—are imported. A substantial reduction of the duty would increase imports moderately and would lower prices. The domestic industry is localized in New York.

## BUTYL ALCOHOL

1. *Description and use.*—Butyl alcohol is one of the more important high-boiling solvents used in the production of nitrocellulose lacquers and other products. It is produced by the fermentation of corn and molasses, and by synthesis from petroleum hydrocarbons.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	8	190	\$5, 866, 588	13 percent. <sup>2</sup>

<sup>1</sup> Estimated.

<sup>2</sup> 1935.

3. *Recent tariff history.*—Act of 1913: ¼ cent per pound. Act of 1922: 6 cents per pound. Act of 1930: 6 cents per pound. Present duty: 6 cents per pound.

4. *Average ad valorem equivalent.*—1934, 9 percent; 1935, 13 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,601,983	\$30	\$205,274
1937.....	5,866,588	None	288,312

6. *Industrial concentration and tariff policy.*—Technical skill and research, specialization, economies of large-scale production, and size of market account largely for the concentration. Removal of the duty would have little effect on the import-domestic price situation.

## SYNTHETIC METHYL ALCOHOL

1. *Description and use.*—Methyl alcohol is used in the production of formaldehyde, as an antifreeze in automobile radiators, in varnishes and lacquers, and as a general solvent.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$8,619,238	10 per cent.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: 12 cents a gallon. Act of 1930: 18 cents a gallon. Present duty: 18 cents a gallon.

4. *Average ad valorem equivalent.*—1934, 5 percent; 1935, 13 percent; 1936, 6 percent; 1937, 10 percent; 1938, 5 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,611,382	\$64	\$300,040
1937.....	8,619,238	120	316,060

6. *Industrial concentration and tariff policy.*—Economies of large-scale production which involve related products, technical skill, and financial resources account for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

## SODIUM BICARBONATE

1. *Description and use.*—Sodium bicarbonate, or baking soda, is a white powder and the mildest of the alkalies. It is an intermediate product in the manufacture of soda ash by the Solvay process. Its chief uses are in: Modified sodas, baking powders and self-rising flours, beverages, stock feed, textile and tanning operations.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 .....	5	1 90	\$3, 606, 271	Free.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913:  $\frac{1}{4}$  cent per pound. Act of 1922:  $\frac{1}{4}$  cent per pound. Act of 1930: Free. Present duty: Free.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935 .....	\$3, 658, 321	\$852	\$227, 396
1937 .....	3, 606, 271	5, 290	306, 830

6. *Industrial concentration and tariff policy.*—Technical skill and economies of large-scale production account for the concentration.

## BROMINE

1. *Description and use.*—Bromine is a heavy, very corrosive liquid obtained from brine and ocean water. It is a raw material for ethylene dibromide which is used in "ethyl fluid," and for medicinal and industrial chemicals.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 .....	12	1 75	\$5, 180, 177	10 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: 10 cents per pound. Act of 1930: 10 cents per pound. Present duty: 10 cents per pound.

4. *Average ad valorem equivalent.*—1935, 10 percent; 1936, 7 percent; 1937, 10 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935 .....	\$3, 438, 239	\$22	(2)
1937 .....	5, 180, 177	25	(2)

<sup>1</sup> Includes bromine content of bromine compounds.<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Technical skill, economies of large-scale production, and financial resources and integration account for the concentration. Imports consist of special grades. Removal of the duty would have a very moderate effect on the import-domestic price situation.

## CALCIUM CARBIDE

1. *Description and use.*—Calcium carbide is a gray solid produced from coal and limestone in an electric furnace. Upon addition of water it forms acetylene. It is used as a raw material for synthetic organic chemicals, in rural and mine lighting, and in welding and cutting.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	6	100	\$9,842,378	39 percent.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: 1 cent per pound. Act of 1930: 1 cent per pound. Present duty: 1 cent per pound.

4. *Average ad valorem equivalent.*—1934, 42 percent; 1935, 48 percent; 1936, 34 percent; 1937, 39 percent; 1938, 34 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$6,234,380	\$9,976	\$163,812
1937.....	9,842,378	38,684	156,912

6. *Industrial concentration and tariff policy.*—Economies of large-scale production and shrinkage of the market (other illuminants and electric welding) account largely for the concentration. Carbide is a cheap, bulky commodity and products (e. g., synthetic acetic acid) made from it are shipped longer distances than the raw material. Canadian producers have low electric-power costs for its production. A substantial reduction of the duty would increase imports moderately and would lower prices in border areas.

## CARBON BISULFIDE

1. *Description and use.*—Carbon bisulfide is a very volatile, highly inflammable liquid. It is used as a solvent, in fumigating, and to a small extent in medicine.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5.....	10	195	\$4,753,748	25 percent.

<sup>1</sup> Estimated.



3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,384,851	(1)	\$199,555
1937.....	4,753,748	(1)	260,773

<sup>1</sup> Probably nil or negligible.

6. *Industrial concentration and tariff policy.*—Specialization and economies of large-scale production account for the concentration. Transportation of this commodity is hazardous and costly. Exports are mostly rail shipments to Canada and Mexico. Removal of the duty would have no effect on the import-domestic price situation.

#### CARBON TETRACHLORIDE

1. *Description and use.*—Carbon tetrachloride is an industrial chemical used as a solvent, particularly in dry cleaning, and for fire-extinguishing fluid.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	6	190	\$3,067,611	29 percent. <sup>2</sup>

<sup>1</sup> Estimated.

<sup>2</sup> 1936.

3. *Recent tariff history.*—Act of 1913: 1 cent per pound. Act of 1922: 2½ cents per pound. Act of 1930: 1 cent per pound. Present duty: 1 cent per pound.

4. *Average ad valorem equivalent.*—1936, 29 percent (no imports in 1934, 1935, 1937, or 1938).

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$2,149,877	None	(?)
1937.....	3,067,611	None	(?)

<sup>1</sup> Production for sale and inter-lant transfer.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Large-scale production associated with related products (e. g., chlorine), establishment of brands, and size of market account largely for the concentration. Removal of the duty would probably increase imports moderately and would lower prices slightly.

## SAL AMMONIAC

1. *Description and use.*—Sal ammoniac (ammonium chloride) is a colorless regular crystal or granular white powder. It is made by neutralizing hydrochloric acid with ammonia. It is an essential in filling electric dry batteries and is important in galvanizing fluxes, textiles, and medicines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	9	1 90	\$1, 821, 494	52 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913:  $\frac{3}{4}$  cents per pound. Act of 1922:  $1\frac{1}{4}$  cents per pound. Act of 1930:  $1\frac{1}{4}$  cents per pound. Present duty:  $1\frac{1}{4}$  cents per pound.

4. *Average ad valorem equivalent.*—1934, 50 percent; 1935, 52 percent; 1936, 53 percent; 1937, 52 percent; 1938, 53 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 583, 613	\$187, 367	( <sup>1</sup> )
1937.....	1, 821, 494	203, 073	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Side-line production by manufacturers of hydrochloric acid and ammonia, byproduct manufacture (ammonia-soda process for making soda ash) account for the concentration. A substantial reduction of the duty would increase imports and would lower prices appreciably.

## REFINED GLYCERIN

1. *Description and use.*—Glycerin includes here chemically pure glycerin which is used in tobacco, pharmaceuticals, and a number of other products, and the dynamite grade, which is used in dynamite, synthetic resins, and similar products.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	34	91	\$21, 282, 521	6 percent.

3. *Recent tariff history*.—Act of 1913: 2 cents per pound. Act of 1922: 2 cents per pound. Act of 1930: 2 cents per pound. Present duty:  $1\frac{7}{15}$  cents per pound.<sup>4</sup>

4. *Average ad valorem equivalent*.—1934, 21 percent; 1935, 17 percent; 1936, 8 percent; 1937, 6 percent; 1938, 17 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$12, 973, 082	\$8, 277	\$450, 248
1937.....	21, 282, 521	1, 827, 189	338, 148

<sup>1</sup> Not specified as to crude or refined.

6. *Industrial concentration and tariff policy*.—Byproduct manufacture on the part of large companies in the soap and fatty acid industries accounts for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### POTASSIUM HYDROXIDE

1. *Description and use*.—Potassium hydroxide, or caustic potash, is a white crystalline product which is easily soluble in water. It is probably the most important potassium product in industrial use. Its principal uses are in soft soap, dyes, potash chemicals, and glass.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5.....	5	<sup>1</sup> 90	\$1, 437, 509	14 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: Free. Act of 1922: 1 cent per pound. Act of 1930: 1 cent per pound. Present duty: 1 cent per pound.

4. *Average ad valorem equivalent*.—1934, 16 percent; 1935, 15 percent; 1936, 15 percent; 1937, 14 percent; 1938, 12 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$1, 260 031	\$226, 165	( <sup>1</sup> )
1937.....	1, 437, 509	167, 857	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Economies of large-scale production and size of market account largely for the concentration. Imports consist mostly of special grades of very high quality. A substantial reduction of the duty would increase imports moderately and would lower prices appreciably, especially in coastal areas.

<sup>4</sup> French Trade Agreement, effective June 1, 1936.

## SILVER NITRATE

1. *Description and use.*—Silver nitrate is a colorless crystalline salt produced from silver and nitric acid, which is used principally in the manufacture of photographic films. It is also employed in silvering mirrors, in plating, and in medicinal uses.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	6	1 90	\$2, 284, 922	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 907, 693	(1)	(1)
1937.....	2, 284, 922	(1)	(1)

<sup>1</sup> Not available, but probably negligible.

6. *Industrial concentration and tariff policy.*—Specialization and economies of large-scale production account largely for the concentration. Removal of the duty would probably have only a minor effect on the import-domestic price situation.

## AMMONIUM NITRATE

1. *Description and use.*—Ammonium nitrate is a white crystalline salt, made by neutralizing nitric acid with ammonia. Its chief industrial use is in explosives and as the raw material for nitrous oxide (laughing gas). It contains 35 percent nitrogen and is used to a considerable extent in fertilizer mixtures.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5.....	10	1 90	\$1, 130, 764	90 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: 1 cent per pound. Act of 1930: 1 cent per pound. Present duty: 1 cent per pound.

4. *Average ad valorem equivalent.*—1934, 67 percent; 1935, 65 percent; 1936, 79 percent; 1937, 90 percent; 1938, 72 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$673, 704	\$54, 148	( <sup>1</sup> )
1937.....	1, 130, 764	71, 523	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Production by the large manufacturers of explosives, mostly for their own use, accounts for the concentration. A substantial reduction of the duty would increase imports only moderately and would lower prices slightly.

#### HYDROGEN PEROXIDE

1. *Description and use.*—Commercial hydrogen peroxide is an aqueous solution usually containing 30 percent or less of hydrogen peroxide. The medicinal grade is generally of 3 percent strength. Hydrogen peroxide is used principally as a bleaching agent for textiles and other products and as an antiseptic.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	<sup>1</sup> 90	\$3, 781, 229	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3, 154, 593	None.....	\$67, 505
1937.....	3, 781, 229	do.....	27, 077

6. *Industrial concentration and tariff policy.*—Specialization and economies of large-scale production account largely for the concentration. Imports have been negligible since the introduction of the electrolytic process of manufacture (about 1927). Removal of the duty would probably increase imports moderately and would lower prices slightly in eastern coastal areas.

## TRISODIUM PHOSPHATE

1. *Description and use.*—Trisodium phosphate is a white, crystalline material which is soluble in water. It is used chiefly as a water softener and as a detergent in both household and industrial cleaning preparations.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12.....	13	77	\$4, 235, 155	15 percent.

3. *Recent tariff history.*—Act of 1913:  $\frac{1}{4}$  cent per pound. Act of 1922:  $\frac{1}{2}$  cent per pound. Act of 1930:  $\frac{3}{4}$  cent per pound and  $1\frac{1}{2}$  cents per pound (less than 45 percent water content). Present duty:  $\frac{1}{2}$  cent per pound and 1 cent per pound (less than 45 percent water content).<sup>5</sup>

4. *Average ad valorem equivalent.*—1934, 8 percent; 1935, 5 percent; 1936, 8 percent; 1937, 15 percent; 1938, 10 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3, 861, 952	\$404	\$197, 400
1937.....	4, 235, 155	745	219, 716

6. *Industrial concentration and tariff policy.*—Technical skill and economies of large-scale production account largely for the concentration. This product is primarily an American development. Removal of the duty would probably affect only moderately the import-domestic price situation.

## SODIUM SILICATE (LIQUID AND SOLID)

1. *Description and use.*—Sodium silicate, commonly known as water glass, comes into commerce as aqueous solutions and as vitreous plates, lumps, and powders. It is used in the paper industry as a stiffener and adhesive, in the soap and detergent industry and in binders, cements, road coatings, waterproofing compounds, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	25	<sup>1</sup> 90	\$8, 354, 849	16 percent.

<sup>1</sup> Estimated.

<sup>5</sup> Belgian trade agreement, effective May 1, 1935.



3. *Recent tariff history.*—Act of 1913: Free. Act of 1922:  $\frac{3}{8}$  cent per pound. Act of 1930:  $\frac{3}{8}$  cent per pound. Present duty:  $\frac{3}{8}$  cent per pound.

4. *Average ad valorem equivalent.*—1934, 17 percent; 1935, 18 percent; 1936, 20 percent; 1937, 16 percent; 1938, 17 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$7, 673, 591	\$4, 532	\$203, 138
1937.....	8, 354, 849	3, 320	241, 174

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources, and integration account largely for the concentration. This product is usually shipped in liquid form in tank cars and drums. Transportation charges are an important factor in its distribution. Imports consist mostly of special types. Removal of the duty would probably increase imports moderately and would lower prices in coastal areas.

#### ALUMINUM SULPHATE

1. *Description and use.*—Aluminum sulphate is a white powder or crystalline material. It is used chiefly in the manufacture of paper and in water purification. The two important grades are iron-free and commercial aluminum sulphate.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	22	82	\$8, 958, 601	22 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: Three-eighths cent per pound (iron-free and commercial grades). Act of 1930: Three-eighths cent per pound (iron-free and commercial grades). Present duty: One-fifth cent per pound.<sup>6</sup>

4. *Average ad valorem equivalent.*—1934, 51 percent; 1935, 26 percent; 1936, 25 percent; 1937, 22 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$7, 748, 490	\$16, 715	\$685, 347
1937.....	8, 958, 601	52, 970	679, 214

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and strategic location of plants account largely for the concentration. Imports consist mostly of the iron-free product. Both grades are produced in the United States. Trans-

<sup>6</sup> Belgian trade agreement, effective May 1, 1935.

portation charges are an important factor in its distribution. A substantial reduction of the duty would probably increase imports moderately and lower prices slightly in eastern coastal areas.

## COPPER SULPHATE

1. *Description and use.*—Copper sulphate is a blue crystalline or powdered material, used chiefly as an insecticide or fungicide. It is also used in printing inks, in electroplating, and in the manufacture of other copper salts.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	15	82	\$3, 883, 409	20 percent. <sup>1</sup>

<sup>1</sup> Revenue Act of 1932.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: 4 cents per pound of copper content.<sup>7</sup>

4. *Average ad valorem equivalent.*—1935, 52 percent; 1936, 6 percent; 1937, 20 percent; 1938, 24 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 002, 099	\$899	\$142, 467
1937.....	3, 883, 409	1, 455	1, 212, 430

6. *Industrial concentration and tariff policy.*—Side-line production by large copper refineries accounts largely for the concentration. They also use copper sulphate in the electrolytic refining of copper. Reduction or removal of the import excise tax would probably increase imports very moderately and lower prices slightly in coastal areas.

## MAGNESIUM SULPHATE (EPSOM SALTS)

1. *Description and use.*—Magnesium sulphate is a colorless crystalline salt occurring in two grades: United States Pharmacopoeia and technical. The United States Pharmacopoeia grade is used principally as a medicine and as an ingredient in mineral water (citrate of magnesia); the technical grade is used principally in tanning sole leather.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$1, 216, 748	109 percent.

<sup>7</sup> Revenue Act of 1932.

3. *Recent tariff history.*—Act of 1913: One-tenth cent per pound. Act of 1922: One-half cent per pound. Act of 1930: Three-fourths cent per pound. Present duty: Three-fourths cent per pound.

4. *Average ad valorem equivalent.*—1934, 126 percent; 1935, 124 percent; 1936, 130 percent; 1937, 109 percent; 1938, 97 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 116, 533	\$18, 495	(1)
1937.....	1, 216, 748	26, 771	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production (magnesium products primarily for industrial use) on a large scale and size of market account largely for the concentration. A substantial reduction of the duty would increase imports greatly and would lower prices appreciably.

#### ZINC SULPHATE

1. *Description and use.*—Zinc sulphate is a white solid containing about 44 percent water of crystallization. It is used chiefly as a raw material for the manufacture of lithopone. Minor uses are as mordants, astringents, emetics, and preservatives.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	10	<sup>1</sup> 85	\$1, 143, 284	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: One-half cent per pound. Act of 1922: Three-fourths cent per pound. Act of 1930: Three-fourths cent per pound. Present duty: Three-fourths cent per pound.

4. *Average ad valorem equivalent.*—1934, 27 percent; 1935, 32 percent; 1936, 33 percent; 1937, 30 percent; 1938, 36 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$721, 025	\$6, 381	(1)
1937.....	1, 143, 284	29, 966	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization and side-line production by the manufacturers of lithopone partly for their own use account for the concentration. A substantial reduction

of the duty would increase imports moderately and would lower prices slightly.

## SODIUM SULPHIDE

1. *Description and use.*—Commercial sodium sulphide includes amber-colored crystals and reddish-brown chips of 60 and 30 percent concentrations. It is used chiefly in the leather industry as a depilatory, in the manufacture and application of sulphur dyes, in paper manufacture, and in photography.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	11	78	\$1,529,592	32 percent.

3. *Recent tariff history.*—Act of 1913: One-fourth cent per pound. Act of 1922: Three-eighths and three-fourths cent per pound depending on water content. Act of 1930: Three-eighths and three-fourths cent per pound depending on water content. Present duty: Three-eighths and three-fourths cent per pound depending on water content.

4. *Average ad valorem equivalent.*—1934, 30 percent; 1935, 32 percent; 1936, 29 percent; 1937, 32 percent; 1938, 32 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$1,390,001	\$68,995	( <sup>2</sup> )
1937.....	1,529,592	154,077	( <sup>2</sup> )

<sup>1</sup> Mostly dutiable at three-fourths cent.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, some byproduct manufacture, and size of market (appearance of substitutes) account for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices especially in Atlantic coastal areas.

## CRUDE SULFUR

1. *Description and use.*—Crude sulfur is a yellow amorphous solid. It is used primarily for the production of sulfuric acid which is a basic industrial chemical.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	99	\$44,300,000	Free.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$29,300,000	\$26,164	\$7,582,293
1937.....	44,300,000	7,724	12,155,253

6. *Industrial concentration and tariff policy.*—Ownership of sulfur deposits, economies of large-scale operations, and financial resources account for the concentration.

#### REFINED SULFUR

1. *Description and use.*—Refined sulfur consists of a variety of forms which are used in medicine, for fumigating, for insecticides, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	17	190	\$2,333,467	Free.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.<sup>8</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,054,104	\$30,975	\$418,532
1937.....	2,333,467	38,171	509,133

6. *Industrial concentration and tariff policy.*—Refining by the few large producers of crude sulfur accounts for the concentration. The duty-free status of this product was bound in the trade agreement with the United Kingdom.

#### ANHYDROUS AMMONIA

1. *Description and use.*—Ammonia is a colorless gas at ordinary temperatures and pressure and contains 82.25 percent nitrogen. Liquid anhydrous ammonia is dry ammonia gas compressed to liquid form. It is the raw material in the manufacture of most nitrogen products and is used for refrigeration, treating water supplies, ammoniating super-phosphates, etc.

<sup>8</sup> Duty free status bound in trade agreement with the United Kingdom, January 1, 1939.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	12	90	\$8,867,638	21 percent.

3. *Recent tariff history.*—Act of 1913: 2½ cents per pound. Act of 1922: 2½ cents per pound. Act of 1930: 2½ cents per pound. Present duty: 2½ cents per pound.

4. *Average ad valorem equivalent.*—Not available, except for 1937, 21 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$5,679,399	None	\$206,643
1937.....	8,867,638	\$242	251,108

6. *Industrial concentration and tariff policy.*—Economies of large-scale production account largely for the concentration. This product is usually shipped in liquid form in high-pressure tank cars. Removal of the duty would probably increase very moderately imports of this product in cylinders and would lower slightly prices in coastal areas.

## ACETYLENE

1. *Description and use.*—Acetylene is a compressed hydrocarbon gas sold in heavy cylinders. It is used in oxygen-acetylene blow-torches for cutting and welding metals. It is also used in rural and mine lighting.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
23.....	130	93	\$19,166,420	25 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$14,747,824	(1)	(1)
1937.....	19,166,420	(1)	(1)

<sup>1</sup> Not available, negligible if any.



6. *Industrial concentration and tariff policy.*—Economies of large-scale production account largely for the concentration. Transportation charges on this product, as well as the heavy, returnable cylinders, practically eliminate it from the import or export trade. Removal of the duty would have little or no effect on the import-domestic price situation.

## METHYL CHLORIDE

1. *Description and use.*—Methyl chloride is a gas compressed to a colorless liquid in metal cylinders. It is used in refrigeration, in organic synthesis, and as a local and general anesthetic in medicine.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$1, 043, 195	25 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$688, 927	(1)	(1)
1937.....	1, 043, 195	(1)	(1)

<sup>1</sup> Not available, but negligible.

6. *Industrial concentration and tariff policy.*—Specialization, sideline production, and size of market account largely for the concentration. Some imports of the medicinal grade occur. Plants engaged in refrigeration or organic synthesis frequently make their own product. Removal of the duty would have little effect, except for the medicinal grades, on the import-domestic price situation.

## LITHOPONE

1. *Description and use.*—Lithopone is a white pigment consisting of a mixture of barium sulfate and zinc sulfide. It is used in paints, floor coverings, textiles, rubber, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	13	95	\$13, 760, 312	57 and 41 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922:  $1\frac{3}{4}$  cents per pound. Act of 1930:  $1\frac{3}{4}$  cents and  $1\frac{3}{4}$  cents per pound plus 15 percent, depending on zinc content. Present duty:  $1\frac{1}{2}$  cents<sup>9</sup> and  $1\frac{3}{4}$  cents per pound plus 15 percent.

4. *Average ad valorem equivalent.*—1934, 65 percent (low strength), 40 percent (high strength); 1935, 65 percent (low strength), 39 percent (high strength); 1936, 55 percent (low strength), 41 percent (high strength); 1937, 57 percent (low strength), 41 percent (high strength); 1938, 59 percent (low strength), 41 percent (high strength).

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports <sup>1</sup>	Exports
1935.....	\$14, 297, 118	\$256, 731	\$221, 611
1937.....	13, 760, 312	302, 417	231, 622

<sup>1</sup> Less than 10 percent consists of lithopone containing more than 30 percent zinc sulfide.

6. *Industrial concentration and tariff policy.*—Specialization, sideline production, and shrinkage of the market (appearance of substitute pigment) account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower, especially in eastern coastal areas, prices slightly.

#### LITHARGE

1. *Description and use.*—Litharge is a monoxide of lead (about 93 percent lead). Its principal uses are in the manufacture of storage batteries and insecticides. Secondary uses are in oil refining, in the manufacture of ceramics, chrome pigments, rubber, varnish, and linoleum.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5.....	5	1 95	\$12, 102, 184	31 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 25 percent. Act of 1922:  $2\frac{1}{2}$  cents a pound. Act of 1930:  $2\frac{1}{2}$  cents a pound. Present duty:  $2\frac{1}{4}$  cents a pound.<sup>10</sup>

4. *Average ad valorem equivalent.*—1934, 48 percent; 1936, 49 percent; 1937, 31 percent; 1938, 43 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$7, 733, 737	-----	( <sup>1</sup> )
1937.....	12, 102, 184	\$31	( <sup>1</sup> )

<sup>1</sup> Not separately recorded, but small.

<sup>9</sup> Zinc sulfide content less than 30 percent. Trade agreement with Netherlands, effective February 1, 1936.

<sup>10</sup> Trade agreement with the United Kingdom, effective January 1, 1939.

6. *Industrial concentration and tariff policy.*—Specialization in the production of metallic lead and its products, economies of large-scale production, and financial resources and integration account largely for the concentration. A substantial reduction of the duty would probably increase imports moderately, and would lower prices slightly.

#### RED LEAD (AND OTHER LEAD OXIDES)

1. *Description and use.*—Red lead is a tetraoxide of lead (about 91 percent lead) made by heating litharge in a coloring oven. It is used principally in the manufacture of storage batteries. It is also used in paints, ceramics, etc.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	6	1 90	\$6,751,961	27 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 2¼ cents a pound. Act of 1930: 2¼ cents a pound. Present duty: 2¼ cents a pound.<sup>11</sup>

4. *Average ad valorem equivalent.*—1935, 55 percent; 1936, 43 percent; 1937, 27 percent; 1938, 35 percent.

#### 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports <sup>1</sup>
1935.....	\$3,986,422	\$109,285	\$98,727
1937.....	6,751,961		158,923

<sup>1</sup> Red lead.

6. *Industrial concentration and tariff policy.*—Specialization in the production of metallic lead and its products, economies of large-scale production, and financial resources and integration account for the concentration. A substantial reduction of the duty would probably increase imports very moderately and would lower prices slightly.

#### ZINC OXIDES

1. *Description and use.*—Zinc oxide is a white insoluble pigment used in paints and in compounding rubber.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	24	87	\$15,316,173	30 percent.

<sup>11</sup> Trade agreement with the United Kingdom, January 1, 1939.

3. *Recent tariff history*.—Act of 1913: 10 and 25 percent ad valorem, depending on lead content (dry powder). Act of 1922: 1¼ cents per pound (dry powder). Act of 1930: 1¼ cents per pound (dry powder). Present duty: 1¼ cents per pound (dry powder).

4. *Average ad valorem equivalent*.—1934, 30 percent; 1935, 35 percent; 1936, 32 percent; 1937, 30 percent; 1938, 33 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$13, 071, 090	\$194, 721	\$170, 757
1937.....	15, 316, 173	80, 282	378, 332

<sup>1</sup> Dry powder.

6. *Industrial concentration and tariff policy*.—Specialization in the production of metallic zinc and its products and side-line production by a few large paint companies, partly for their own use, account for the concentration. Slight differences in grade and composition explain partly the movements of imports and exports. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### WHITE LEAD

1. *Description and use*.—White lead is a basic carbonate of lead (about 80 percent lead). It is sold as a dry powder and as a paste mixed with linseed oil (8 to 15 percent). It is used principally as a pigment in paints.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
106.....	117	88	\$23, 602, 269	26 percent.

3. *Recent tariff history*.—Act of 1913: 25 percent ad valorem. Act of 1922: 2½ cents per pound. Act of 1930: 2½ cents per pound. Present duty: 2½ cents per pound.<sup>12</sup>

4. *Average ad valorem equivalent*.—1934, 27 percent; 1935, 24 percent; 1936, 27 percent; 1937, 26 percent; 1938, 23 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$18, 808, 690	\$1, 153	\$277, 583
1937.....	23, 602, 269	6, 677	207, 381

6. *Industrial concentration and tariff policy*.—Specialization in the production of lead products by large corporations and economies of large-scale operations and side-line production by paint companies,

<sup>12</sup> Belgian trade agreement, effective May 1, 1935.

partly for their own use, account largely for the concentration. A substantial reduction of the duty would increase imports very moderately and would lower prices slightly.

### WHITING

1. *Description and use.*—Whiting is a finely ground chalk. It is used as a pigment in calcimine, a filler in rubber goods, in the manufacture of putty, and as a pigment or filler in a variety of manufactured products.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	14	75	\$866, 736	74 percent.

3. *Recent tariff history.*—Act of 1913:  $\frac{1}{10}$  cent per pound. Act of 1922: 25 percent ad valorem. Act of 1930:  $\frac{1}{10}$  cent per pound. Present duty:  $\frac{1}{10}$  cent per pound.<sup>13</sup>

4. *Average ad valorem equivalent.*—1934, 78 percent; 1935, 75 percent; 1936, 72 percent; 1937, 74 percent; 1938, 74 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$833, 366	\$25, 392	( <sup>1</sup> )
1937.....	866, 736	44, 168	( <sup>1</sup> )

<sup>1</sup> Negligible.

6. *Industrial concentration and tariff policy.*—Specialization and size of market account largely for the concentration. Crude chalk, the raw material, which does not occur commercially in the United States, is imported free of duty. Removal of the duty would increase imports greatly and would lower prices appreciably.

### COAL-TAR RESINS (FROM PHENOL AND/OR CRESOL)

1. *Description and use.*—Phenolic resins are plastics made by the condensation of formaldehyde with phenol or other tar acids. Most important among the synthetic resins, they are used to mold, cast, and laminate a large variety of products. Some forms are also used in varnishes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
19.....	20	79	\$16, 762, 554	54 percent.

<sup>13</sup> Belgian trade agreement, effective May 1, 1935.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 7 cents per pound plus 45 percent ad valorem.<sup>14</sup> Act of 1930: 7 cents per pound plus 45 percent ad valorem. Present duty: 7 cents per pound plus 45 percent ad valorem.<sup>15</sup>

4. *Average ad valorem equivalent.*—1934, 58 percent; 1935, 66 percent; 1936, 55 percent; 1937, 54 percent; 1938, 62 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$9,929,904	\$6,075	(2)
1937.....	15,762,554	14,278	(2)

<sup>1</sup> Includes all types coal-tar resins.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Experimental development and patents during the early stages account for the concentration. Patents and licensing agreements have restricted imports. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### COAL-TAR RESINS (PHTHALIC ANHYDRIDE)

1. *Description and use.*—Phthalic anhydride resins are plastics resulting from the condensation of glycerine and phthalic anhydride. They are used primarily in paints, enamels, and varnishes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	10	<sup>1</sup> 90	\$4,530,695	54 percent.

<sup>1</sup> Estimated. Data here taken from the Census of Manufacturers. According to the report of the U. S. Tariff Commission, *Dyes and Other Synthetic Organic Chemicals*, 1937, 34 companies produced 58,450,032 pounds of phthalic anhydride resins, and 25 companies sold 32,503,307 pounds valued at \$6,455,511. 4 companies produced 76 percent of total output.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 7 cents per pound plus 45 percent ad valorem.<sup>14</sup> Act of 1930: 7 cents per pound plus 45 percent ad valorem. Present duty: 7 cents per pound plus 45 percent ad valorem.

4. *Average ad valorem equivalent.*—1934, 58 percent; 1935, 66 percent; 1936, 55 percent; 1937, 54 percent; 1938, 62 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,946,897	(1)	(1)
1937.....	4,530,695	(1)	(1)

<sup>1</sup> Not available.

<sup>14</sup> Ad valorem rate 60 percent for first 2 years of the act of 1922.

<sup>15</sup> Ad valorem rate is based on the American selling price.



6. *Industrial concentration and tariff policy.*—Experimental development of this product by two large corporations, one of which is also a large manufacturer of paint products, and patents account for the present concentration. A basic patent was invalidated in 1936. Licensing agreements and patents have restricted imports. A substantial reduction of the duty would increase imports moderately and would lower prices appreciably.

## RESIDUUM OR TAR

1. *Description and use.*—Still residues from petroleum refining should be sharply distinguished from pitch of tar obtained from coal tar. Tariff classification most nearly corresponding to petroleum tar or road oil is petroleum asphalt.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	10	1 80	1 \$853, 393	Free.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free under paragraph 1733 if solid but subject to excise tax in liquid form. Petroleum asphalt likewise free under paragraph 1710 but subject to excise tax in liquid form.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 696, 440	\$210	\$895, 022
1937.....	853, 393	4, 694	284, 234

6. *Industrial concentration and tariff policy.*—Specialized production by certain oil refineries. Most of it is burned where made.

## CARTRIDGES

1. *Description and use.*—Cartridges (rifle, revolver, pistol), loaded paper shells, blanks, etc., are the main items included.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 <sup>1</sup> .....	1 5	1 100	\$29, 738, 639	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$21,026,174	\$14,343	\$1,171,570
1937.....	29,738,639	22,849	2,012,861

<sup>1</sup> Includes only loaded metallic and shot cartridges.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and variations in size of market account largely for the concentration. Imports consist of expensive cartridges (about one-half) for foreign-made guns and of cheap cartridges for certain sizes of American-made guns. A substantial reduction of the duty would increase imports moderately, especially the cheap cartridges, and would lower prices of competing types slightly.

## GROUP E: RUBBER AND LEATHER PRODUCTS

### TIRES AND INNER TUBES (INCLUDES SOLID TIRES)

1. *Description and use.*—Tires and inner tubes include both solid and pneumatic tires for automobiles, trucks, busses, trailers, airplanes, motorcycles, bicycles, tractors, and farm implements.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 to 26 <sup>1</sup> .....	1 5-36	1 75-90	\$478, 870, 897	11 percent. <sup>2</sup>

<sup>1</sup> Ranges cited indicate variations in companies, plants, and concentration for the types indicated.

<sup>2</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 10 to 25 percent ad valorem depending on classification. Act of 1922: 10 to 30 percent ad valorem depending on classification. Act of 1930: 10 to 30 percent ad valorem depending on classification. Present duty: 10 to 30 percent ad valorem depending on classification.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$374, 264, 436	\$75, 252	\$10, 878, 052
1937.....	478, 870, 897	114, 944	14, 328, 066

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale over a period of years, financial resources and integration, and establishment of brands account largely for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

### GUTTA-PERCHA PRODUCTS

1. *Description and use.*—Gutta-percha products include tissue, beer tubing, insulation for submarine cables, golf-ball covers, and dental goods. The tissue is used as an adhesive in the manufacture of bottle caps, hats, dresses, shoes, pocketbooks, and cases for eyeglasses.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	<sup>1</sup> 85	\$3, 453, 443	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	( <sup>1</sup> )	\$40, 271	( <sup>1</sup> )
1937.....	\$3, 453, 443	42, 939	\$310, 362

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and contractual selling account largely for the concentration. Imports consist mainly of tissue and beer tubing. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

## RUBBER THREAD

1. *Description and use.*—Rubber thread is used in the manufacture of elastic yarn, elastic webbing, and golf balls. Elastic yarn which is made by covering rubber thread with cotton, silk, or wool is used for the manufacture of elastic fabrics.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production <sup>1</sup>	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	<sup>1</sup> 90	\$3, 475, 477	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 550, 833	Negligible...	\$713, 978
1937.....	3, 475, 477	.....do.....	366, 074

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and patents (especially the extrusion process) account for the concentration. The principal producers belong to an international cartel which, at least in Europe, fixes prices and allocates markets. Removal of the duty would probably increase imports only moderately and would lower prices slightly.

## RUBBER NIPPLES AND PACIFIERS

1. *Description and use.*—Rubber nipples are used on nursing bottles.
2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	18	1 80	\$1, 209, 716	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 196, 219	\$4, 666	(1)
1937.....	1, 209, 716	8, 701	(1)

<sup>1</sup> Not separately reported but much larger than imports.

6. *Industrial concentration and tariff policy.*—Some specialization, side-line production by large manufacturers of drug sundries, establishment of brands, and patents account for the concentration. Exports exceed imports. A substantial reduction of the duty would have only a moderate effect on the import-domestic price situation.

## RUBBER COMBS

1. *Description and use.*—Rubber combs constitute a major portion of the total output of combs. They are of many sizes and prices.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$2, 261, 676	65 percent.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: 35 percent ad valorem. Act of 1930: 1 or 2 cents each plus 25 or 35 percent depending on value. Present duty: 1 or 2 cents each plus 25 or 35 percent depending on value.

4. *Average ad valorem equivalent.*—1934, 67 percent; 1935, 67 percent; 1936, 67 percent; 1937, 65 percent; 1938, 63 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	( <sup>1</sup> )	\$46, 008	( <sup>1</sup> )
1937.....	\$2, 261, 676	58, 069	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and size of market account largely for the concentration. A substantial reduction of the duty would increase imports greatly and would lower prices appreciably.

## RUBBER CEMENT

1. *Description and use.*—Rubber cement is made from crude rubber and latex and a solvent such as gasoline. It is used in the manufacture of dipped rubber goods and as an adhesive in the rubber, leather, and textile industries.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
17.....	20	175	\$8, 931, 113	25 percent.

<sup>1</sup> Estimated.



3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3, 142, 605	(1)	(2)
1937.....	8, 931, 113	(1)	\$332, 959

<sup>1</sup> Negligible.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production and contractual selling probably account for the concentration. Reduction or removal of the duty would have no appreciable effect on the import-domestic price situation.

#### RUBBER BOOTS AND SHOES

1. *Description and use.*—Rubber boots and shoes include rubber-soled canvas shoes, rubber boots, lumbermen's pacs, arctics, gaiters, and rubbers.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10 to 16 <sup>1</sup> .....	<sup>1</sup> 11-17	<sup>1</sup> 81-88	\$58, 269, 258	55 percent. <sup>2</sup>

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

<sup>2</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Various, depending on component material of chief value. Act of 1922: 25 to 35 percent ad valorem (foreign value). Act of 1930: 25 to 35 percent ad valorem (foreign value). Present duty 25 to 35 percent ad valorem.<sup>1</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$48, 261, 613	\$249, 269	\$506, 275
1937.....	58, 209, 258	234, 808	647, 397

<sup>1</sup> Values as declared by importers.

6. *Industrial concentration and tariff policy.*—Specialized production, establishment of brands, and consolidations account for the concentration. Because of the duty, about 80 percent of the imports are not comparable with domestic products. Removal of the domestic valuation provision and a substantial reduction of the duty would increase imports greatly and would lower prices appreciably.

<sup>1</sup> Presidential proclamation, effective March 3, 1933 (sec. 336, Tariff Act of 1930). The basis of valuation was changed from foreign value to domestic value (selling price) which in effect doubled the duty. It applies to imports which are like or similar to domestic rubber footwear.

## GOAT AND KID LINING LEATHER

1. *Description and use.*—Goat and kid lining leather is produced from low grade and inferior quality goat and kid skins. The leather is used chiefly for lining women's medium and high-priced shoes, handbags, and fancy leather goods.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	8	1 90	\$4, 755, 468	10 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: 10 percent ad valorem. Present duty: 10 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 353, 468	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	4, 755, 468	\$91, 820	\$76, 906

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Production of goat and kid lining leather in conjunction with the production of goat and kid upper leather by large manufacturers accounts largely for the concentration. Imports consist mostly of better quality than the domestic product. Removal of the duty would increase imports moderately and would lower prices slightly.

## SKIVERS

1. *Description and use.*—Skivers are leather produced from the grain-splits of sheepskins, usually vegetable tanned. They are used for a great variety of purposes including sweat-bands for hats, bag linings, bookbinding, pocketbooks, and fancy leather goods.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	13	78	\$2, 303, 815	25 percent.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: 25 percent ad valorem. Present duty: 20 percent ad valorem.<sup>2</sup>

<sup>2</sup> United Kingdom trade agreement, effective January 1, 1939.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1,907,803	\$25,559	(1)
1937.....	2,303,815	34,368	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Production of skivers in conjunction with the production of chamois and other types of sheep and lamb leather by large manufacturers, and the size of market probably account for the concentration. A substantial reduction of the duty would result in increased imports and would probably lower prices.

## GROUP F: STONE, CLAY, AND GLASS PRODUCTS

### ASBESTOS SHINGLES AND LUMBER

1. *Description and use.*—Asbestos shingles, “lumber,” and other asbestos cement products are composed of about 15 percent asbestos and 85 percent Portland cement. The shingles are used for roofing and siding, and the “lumber” for siding and partitions. Other important products include slabs used as panels for industrial control instruments and as barriers between circuit breakers, and “tile” used as wainscoating in buildings.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	14	97	\$18, 228, 544	51 <sup>1</sup> and 61 <sup>2</sup> percent.

<sup>1</sup> Not decorated.

<sup>2</sup> Decorated.

3. *Recent tariff history.*—Act of 1913: 10 percent. Act of 1922: 25 percent. Act of 1930: Three-fourths cent per pound, if not decorated; 1 cent per pound, decorated. Present duty: Six-tenths cent per pound, not decorated; three-fourths cent per pound, decorated.<sup>1</sup>

4. *Average ad valorem equivalent.*—1934, 58 percent (not decorated), 75 percent (decorated); 1936, 56 percent (not decorated), 62 percent (decorated); 1937, 51 percent (not decorated), 61 percent (decorated); 1938, 52 percent (not decorated), 62 percent (decorated).

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$8, 152, 264	\$3, 942	\$106, 678
1937.....	18, 228, 544	20, 085	166, 312

<sup>1</sup> Asbestos roofing.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, ownership of asbestos deposits, restricted marketing areas, and competition from other products account for the concentration. Imports are mostly shingles, thinner and less varied in color than the domestic product. A substantial reduction in the duty would probably increase imports and would lower prices appreciably in coastal areas. The main domestic market is in the South Atlantic and Midwestern States. The principal producing plants are in New Jersey, Alabama, Louisiana, and Missouri.

<sup>1</sup> Belgian trade agreement, effective May 1, 1935.

## ASBESTOS ROVING, YARN, AND CLOTH

1. *Description and use.*—Asbestos roving is used in the production of yarn and as insulation for electric-heater cords. Asbestos fiber of spun into yarn and woven into cloth in a manner very similar to the spinning and weaving of cotton or wool.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	16	176-90	\$6,457,280	40 percent.

<sup>1</sup> Range indicates variation in concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 10 or 20 percent. Act of 1922: 25 or 30 percent. Act of 1930: 40 percent. Present duty: 20 percent.<sup>2</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports <sup>2</sup>
1935.....	\$3,844,593	\$13,327	( <sup>2</sup> )
1937.....	6,457,280	27,450	\$43,907

<sup>1</sup> Yarn only.

<sup>2</sup> Textiles and yarn.

<sup>3</sup> Not reported separately.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production financial resources, and limited market largely account for the concentration. Imports in many instances are not strictly competitive. Effect of the duty is somewhat obscured because of interownership of certain large British and American plants and because much of the production of these items is an intermediate step in producing more advanced products in the same plants. The recent reduction of the duty may increase imports moderately and lower prices slightly on certain products.

## ASBESTOS PAPER

1. *Description and use.*—Asbestos paper may be either flat or corrugated. One of the principal uses of both kinds is in the manufacture of air-cell pipe coverings which consist of alternate layers of corrugated and flat sheets held firmly together. It is also used as an insulating cover for certain electric wire.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12.....	15	80	\$3,395,200	25 percent.

<sup>1</sup> United Kingdom trade agreement, effective January 1, 1939.

3. *Recent tariff history.*—Act of 1913: 10 percent. Act of 1922: 25 percent. Act of 1930: 25 percent. Present duty: 25 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,564,336	\$113	\$130,578
1937.....	3,395,200	129	183,610

6. *Industrial concentration and tariff policy.*—Economies of large-scale production and limited market account largely for the concentration. Reduction or removal of the duty would probably have no appreciable effect on the import-domestic price situation.

#### ASBESTOS INSULATION

1. *Description and use.*—Important asbestos insulations include pipe and boiler coverings and molded blocks. Much pipe covering is made of corrugated and flat asbestos paper; molded blocks are used to cover large areas where heavy insulation is needed.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 <sup>1</sup> to 11 <sup>2</sup> .....	19-213	285-193	\$3,948,545	25 percent.

<sup>1</sup> Pipe and boiler coverings.

<sup>2</sup> Molded blocks.

3. *Recent tariff history.*—Act of 1913: 10 percent. Act of 1922: 25 percent. Act of 1930: 25 percent. Present duty: 25 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	<sup>2</sup> \$3,558,342	(1)	(1)
1937.....	3,948,545	(1)	(1)

<sup>1</sup> No comparable data available.

<sup>2</sup> Does not include molded blocks.

6. *Industrial concentration and tariff policy.*—Specialization and limited market account for the concentration. Exports probably exceed imports. A substantial reduction of the duty would have little or no effect on the import-domestic price situation.



## ASBESTOS PACKING

1. *Description and use.*—The asbestos packing includes here compressed sheet and flat fabrics. Asbestos because of its heat-resistant quality and its smoothness is especially useful in the manufacture of a wide variety of packings for engines and other mechanical equipment.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 <sup>1</sup> to 10 <sup>2</sup> .....	18-211	185-290	\$1,430,296	40 percent.

<sup>1</sup> Flat fabrics.

<sup>2</sup> Compressed sheet.

3. *Recent tariff history.*—Act of 1913: 10 percent. Act of 1922: 25 percent. Act of 1930: 40 percent. Present duty: 20 percent.<sup>2</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$909,732	(1)	(1)
1937.....	1,430,296	(1)	(1)

<sup>1</sup> Not reported separately, but small.

6. *Industrial concentration and tariff policy.*—Specialization and limited market account for the concentration. The recent reduction of the duty may increase imports moderately and lower prices.

## MOLDED ASBESTOS BRAKE LININGS AND CLUTCH FACINGS

1. *Description and use.*—Molded linings and facings are used in the automotive industry. They are more recently developed and less expensive than the woven type.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 <sup>1</sup> to 15 <sup>2</sup> .....	110-218	191-275	\$11,446,241	25 percent.

<sup>1</sup> Clutch facings.

<sup>2</sup> Brake linings.

3. *Recent tariff history.*—Act of 1913: 10 percent. Act of 1922: 25 percent. Act of 1930: 25 percent. Present duty: 20 percent.<sup>3</sup>

4. *Average ad valorem equivalent.*—None.

<sup>3</sup> United Kingdom Trade Agreement, effective January 1, 1939.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	<sup>1</sup> \$4, 670, 326	( <sup>2</sup> )	<sup>1</sup> \$651, 338
1937.....	11, 446, 241	( <sup>2</sup> )	\$15, 074

<sup>1</sup> Brake linings only.<sup>2</sup> Negligible.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and contractual relations with the automotive industry account for the concentration. These products are made according to rigid specifications of the buyers. Imports consist of a few replacements for foreign-made automobiles. Removal of the duty would probably have little or no effect on the import-domestic price situation.

## ASBESTOS CLUTCH FACINGS (NOT MOLDED)

1. *Description and use.*—Clutch facings are flat rings used to line the plates of automobile clutches. These woven facings are more expensive than the molded type.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	11	92	\$3, 449, 948	40 percent.

3. *Recent tariff history.*—Act of 1913: 10 percent. Act of 1922: 25 percent. Act of 1930: 40 percent. Present duty: 20 percent.<sup>4</sup>

4. *Average ad valorem equivalent.*—None.5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 715, 816	( <sup>1</sup> )	( <sup>2</sup> )
1937.....	3, 449, 948	( <sup>1</sup> )	\$47, 712

<sup>1</sup> Negligible.<sup>2</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and contracts for supplying the automotive industry account for the concentration. Removal of the duty would not affect the import-domestic price situation.

<sup>4</sup> United Kingdom Trade Agreement, effective January 1, 1939.

## SILICA BRICK

1. *Description and use.*—Silica brick is a type of firebrick made largely from ganister, a special kind of silica rock. It is used principally in the construction and maintenance of open-hearth steel furnaces, in electric furnaces, and in others where the acid properties and other characteristics of silica refractories are particularly suitable.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
17.....	26	<sup>1</sup> 75	\$12, 801, 663	15 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 12½ percent ad valorem.<sup>5</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$8, 179, 990	None	\$390, 636
1937.....	12, 801, 663	None	838, 241

6. *Industrial concentration and tariff policy.*—Technical skill, ownership of raw-material supplies, and specialized production by a few companies which supply a full line of related products account largely for the concentration. The recent reduction of the duty is likely to have only a minor effect on the import-domestic price situation.

## MAGNESITE AND CHROME BRICK

1. *Description and use.*—Magnesite and chrome brick are heat-resistant brick used largely in constructing the masonry parts of basic open-hearth steel furnaces and others where high temperatures are needed.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3.....	3	100	\$6, 726, 943	16 percent.

<sup>5</sup> First Canadian agreement, effective January 1, 1936, 15 percent; second agreement, effective January 1, 1939, present duty, 12½ percent.

3. *Recent tariff history*.—Act of 1913: 10 percent ad valorem. Act of 1922:  $\frac{3}{4}$  cent per pound plus 10 percent ad valorem. Act of 1930:  $\frac{3}{4}$  cent per pound plus 10 percent ad valorem. Present duty:  $\frac{3}{4}$  cent per pound plus 10 percent ad valorem.

4. *Average ad valorem equivalent*.—1934, 43 percent; 1935, 21 percent; 1936, 53 percent; 1937, 16 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$3, 424, 726	\$162	(1)
1937.....	6, 726, 943	122	\$957. 208

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Technical skill, ownership of raw-material supplies (particularly with regard to magnesite brick) and establishment of brands account largely for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

#### GLAZED BRICK (SALT AND OTHER)

1. *Description and use*.—Salt glazed brick are structural units on which a glaze is produced by introducing salt into the fire during the burning process. Other glazed brick are those coated with a ceramic glaze or less fusible ceramic mix. Salt-glazed brick is brown; the other finishes are made in different colors.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11 and 12.....	13-15	<sup>1</sup> 79-1 85	\$2, 400, 759	15 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 15 percent ad valorem. Act of 1922: Conditionally free. Act of 1930: 5 percent ad valorem but not less than \$1.50 per thousand. Present duty: 5 percent ad valorem but not less than \$1.50 per thousand.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	(1)	\$7	(1)
1937.....	\$2, 400, 759	284	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production mostly as a side line and limited use of the product account for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

## FAIENCE TILE

1. *Description and use.*—Faience tile is a highly decorated glazed tile used largely for surfacing walls of bathrooms and other installations. This type differs from ordinary glazed tile in that the body is always shaped while in the plastic stage, and the glaze is always opaque.

2. *Industrial concentration, 1937*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
23.....	25	75	\$595, 108	60 percent.

3. *Recent tariff history.*—Act of 1913: 5 cents per square foot. Act of 1922: 45 to 60 percent ad valorem. Act of 1930: 50 to 70 percent ad valorem. Present duty: 50 to 70 percent ad valorem.<sup>6</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$310, 816	(1)	(1)
1937.....	595, 108	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Side-line production by a few large manufacturers of glazed tile, some specialized production, technical skill, and limited use account largely for the concentration. The recent reduction of the duty is likely to have only a minor effect on imports in coastal areas.

## ASPHALT FLOOR TILE

1. *Description and use.*—Asphalt floor tile is molded from various types of composition which includes asphalt as a binding material.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	6	<sup>1</sup> 90	\$3, 313, 848	25 to 40 percent.

<sup>1</sup> Estimated.

<sup>6</sup> On tile valued over 40 cents per square foot, duty reduced to about 30 or 35 percent ad valorem. United Kingdom trade agreement, effective January 1, 1939.

3. *Recent tariff history*.—Act of 1913: 25 to 40 percent depending on appropriate tariff paragraph. Act of 1922: 25 to 40 percent depending on appropriate tariff paragraph. Act of 1930: 25 to 40 percent depending on appropriate tariff paragraph. Present duty: 25 to 40 percent depending on appropriate tariff paragraph.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$1,700,000	(1)	(2)
1937.....	3,313,848	(1)	(2)

<sup>1</sup> Negligible.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy*.—Some specialization, side-line production, and establishment of brands account for the concentration. Reduction or removal of the duty would probably have little or no effect on the import-domestic price situation.

#### CHEMICAL PORCELAIN AND STONEWARE

1. *Description and use*.—Chemical porcelain and stoneware include acid-proof pipe, tubes and digestors, and crucibles and other containers capable of withstanding unusually high temperatures.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
2-5 <sup>1</sup> .....	<sup>1</sup> 2-5	<sup>1</sup> 75-100	\$1,176,636	60 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the 2 types enumerated above.

3. *Recent tariff history*.—Act of 1913: Not provided for. Act of 1922: 60 percent, not decorated; 70 percent, decorated. Act of 1930: 60 percent, not decorated; 70 percent, decorated. Present duty: 60 percent, not decorated; 70 percent, decorated.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$867,042	\$7,517	(1)
1937.....	1,176,636	24,863	(1)

<sup>1</sup> Negligible.

6. *Industrial concentration and tariff policy*.—Specialization, technical skill, and limited market account for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices.



## PORCELAIN INSULATORS (SUSPENSION AND PIN TYPES)

1. *Description and use.*—Porcelain insulators of suspension and pin types are among the numerous groups of porcelain articles used by manufacturers of electrical equipment, and by power and light companies.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	15	75	\$6, 439, 283	60 percent.

3. *Recent tariff history.*—Act of 1913: Not specially provided for. Act of 1922: 60 percent, not decorated; 70 percent, decorated. Act of 1930: 60 percent, not decorated; 70 percent, decorated. Present duty: 60 percent, not decorated; 70 percent, decorated.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports <sup>1</sup>
1935.....	\$2, 449, 111	\$7, 197	\$502, 407
1937.....	6, 439, 283	5, 754	738, 534

<sup>1</sup> All classes of electrical porcelain.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and size of market account largely for the concentration. A substantial reduction of the duty would increase imports greatly and would lower prices appreciably.

## GYPSUM PLASTERS

1. *Description and use.*—Gypsum plasters consist mainly of calcined gypsum (plaster of paris) to which some fiber and retarder are added. They are mixed with sand and water and applied to interior walls.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
23.....	51	85	\$15, 479, 391	35 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 35 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	<sup>2</sup> \$10, 281, 203	( <sup>1</sup> )	\$128, 258
1937.....	15, 479, 391	( <sup>1</sup> )	68, 288

<sup>1</sup> Not separately reported, but negligible.<sup>2</sup> Made from domestic gypsum only.

6. *Industrial concentration and tariff policy.*—Both horizontal and vertical combination account largely for the present concentration in production. A major portion of the Canadian industry is owned by the large American companies. Gypsum plaster absorbs moisture when stored a long time or shipped long distances by water. Removal of the duty would increase imports moderately and would lower prices slightly.

## KEENE'S CEMENT

1. *Description and use.*—Keene's cement is a type of hard-finished gypsum plaster in which certain chemicals are used. This cement sets with a greater degree of hardness than ordinary gypsum plaster.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937; Free, ad valorem rate, or equivalent
5.....	7	1 90	\$546, 606	29 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: \$3.50 to \$14 per ton depending on value. Act of 1930: \$3.50 to \$14 per ton depending on value. Present duty: \$3.50 to \$14 per ton depending on value.

4. *Average ad valorem equivalent.*—1934, 27 percent; 1935, 27 percent; 1936, 18 percent; 1937, 29 percent; 1938, 33 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$278, 914	\$1, 280	( <sup>1</sup> )
1937.....	546, 606	675	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production, consolidations, and establishment of brands account for the concentration. Removal of the duty would increase imports moderately and would lower prices appreciably.

## GYPSUM BOARD

1. *Description and use.*—Gypsum board consists of plasterboard and wall board. Plasterboard is a substitute for wood or metal lath; wall board requires no finishing coat of plaster.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8 and 9 -----	{ 29 30	91 94	\$17,683,937 17,954,182	35 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 35 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935 -----	\$8,389,254	(1)	\$42,465
1937 -----	17,683,937	(1)	96,019

<sup>1</sup> Not separately reported, but probably nil.

<sup>2</sup> Made from domestic gypsum only.

6. *Industrial concentration and tariff policy.*—Horizontal and vertical combination, as well as patents, account for the present concentration. Reduction or removal of the duty would probably increase imports moderately in the northeastern coastal areas and in a few markets along the Canadian border. Prices generally would not be appreciably affected. The large American companies are also important Canadian producers.

## ELECTRIC LIGHT BULBS

1. *Description and use.*—Electric light bulbs are the outer glass parts used in the manufacture of incandescent electric lamps. They are made in a great variety of shapes, sizes, and colors.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 <sup>1</sup> -----	16	<sup>2</sup> 100	<sup>1</sup> \$16,000,000	20 percent.

<sup>1</sup> Estimated.

<sup>2</sup> 2 companies account for practically the entire output, 1 of which is a patent licensee of the other.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 20 percent ad valorem. Act of 1930: 20 percent ad valorem. Present duty: 20 percent ad valorem.

4. *Average ad valorem equivalent.*—None.  
 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	<sup>1</sup> \$12, 800, 000	\$17, 284	(2)
1937.....	<sup>1</sup> 16, 000, 000	14, 385	(2)

<sup>1</sup> Estimated.

<sup>2</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—The development and control of patents, as well as the economies of large-scale production, account for the concentration. Imports consist almost entirely of hand-blown bulbs of shapes and colors not ordinarily produced in the United States. Elimination of the duty would have no appreciable effect on imports and domestic prices.

#### GLASS CONTAINERS

1. *Description and use.*—Glass containers consist of articles such as packers' ware, fruit jars, milk bottles, and beer bottles. They are used for packaging beverages, food products, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6-25 <sup>1</sup> .....	<sup>1</sup> 14-49	<sup>1</sup> 76-90	\$46, 883, 288	28.5 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above-mentioned types.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 1 or 1½ cents per pound, or 50 cents per gross (depending on size). Act of 1930: 1 or 1½ cents per pound, or 50 cents per gross (depending on size).<sup>7</sup> Present duty: 1 or 1½ cents per pound, or 50 cents per gross (depending on size).<sup>7</sup>

4. *Average ad valorem equivalent.*—1934, 15 percent; 1935, 19 percent; 1936, 25 percent; 1937, 28½ percent; 1938, 27 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$35, 120, 000	\$180, 872	\$2, 105, 069
1937.....	46, 883, 288	72, 860	3, 320, 598

6. *Industrial concentration and tariff policy.*—The control of patents largely accounts for the concentration. Imports of glass containers have always been negligible as compared with domestic production and usually consist of types not made domestically. Reduction or elimination of the duty would probably have little effect on imports and domestic prices.

<sup>7</sup> The duty on bottles and jars holding more than 1 pint was reduced 50 percent in the Czechoslovak trade agreement for the period April 16, 1938, to April 22, 1939.

## GLASS TABLEWARE (MACHINE MADE)

1. *Description and use.*—Glass tableware, machine made, consists mainly of articles such as tumblers, goblets, barware, plates, dishes, cups, and saucers.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 and 8 <sup>1</sup> .....	17-11	{ 180 180-90}	\$24,596,778	60 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above items.

3. *Recent tariff history.*—Act of 1913: 45 percent ad valorem. Act of 1922: 55 percent ad valorem. Act of 1930: 60 percent ad valorem.<sup>8</sup> Present duty: 60 percent ad valorem.<sup>9</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$23,361,221	(1)	\$950,487
1937.....	24,596,778	(1)	1,693,047

<sup>1</sup> Not separately reported, but small.

6. *Industrial concentration and tariff policy.*—The control of patents for automatic feeders, furnaces, and machines accounts largely for the concentration. A substantial reduction in the duty on machine-made glass tableware, or its elimination would have a very moderate effect on imports and domestic prices. Imports of glass tableware consist entirely of hand-made ware.

## TECHNICAL AND SCIENTIFIC GLASSWARE

1. *Description and use.*—Technical and scientific glassware consists of articles, such as beakers, retorts, and test tubes. It is used mainly in laboratories of educational and research institutions. Glass for optical precision instruments is not included in this classification.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 <sup>1</sup> .....	19	175	\$11,000,000	85 percent.

<sup>1</sup> Estimated.

<sup>8</sup> Duty on table glassware reduced to 50 percent in Czechoslovak trade agreement for the period April 16, 1938, to April 22, 1939.

<sup>9</sup> If pressed and unpolished, or if pressed, polished, and undecorated—50 percent.

3. *Recent tariff history.*—Act of 1913: 45 percent ad valorem.<sup>10</sup> Act of 1922: 65 percent ad valorem. Act of 1930: 85 percent ad valorem.<sup>11</sup> Present duty: 85 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$6,500,000	\$148,391	\$202,654
1937.....	11,000,000	174,380	280,138

<sup>1</sup> Estimated.

6. *Industrial concentration and tariff policy.*—The industry began during the World War period and developed rapidly thereafter. It now supplies all kinds including special heat-resisting glass comparable with the Jena (German) glass. Apparently the industry has attained a position in which a substantial reduction in the duty would not increase imports greatly, but prices would be moderately lowered.

#### SPECTACLE GLASS

1. *Description and use.*—Spectacle, or ophthalmic glass has special optical properties and is used as the name indicates—largely for spectacles.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3.....	3	100	<sup>1</sup> \$3,000,000	50 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: 45 percent ad valorem. Act of 1930: 50 percent ad valorem. Present duty: 50 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$2,000,000	\$66,925	( <sup>2</sup> )
1937.....	3,000,000	327,800	( <sup>2</sup> )

<sup>1</sup> Estimated.

<sup>2</sup> Not available, but probably small.

6. *Industrial concentration and tariff policy.*—The comparatively few types of glass required and the large market in the United States has made possible the use of mass production methods and facilitated

<sup>10</sup> Conditionally free for certain institutions.

<sup>11</sup> Certain kinds of tubing, 65 percent.



concentration. A large part of the domestic output is made by a spectacle company for its own use. A substantial reduction in the duty would have a moderate effect on imports and prices.

#### SHEET GLASS

1. *Description and use.*—Sheet glass is an unground and unpolished flat glass product. It is used largely as window glass, but it is also used in the manufacture of mirrors, watch crystals, photographic dry plates, safety glass, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9-----	14	85	\$31,389,468	66 percent.

3. *Recent tariff history.*—Act of 1913:  $\frac{7}{8}$  to 2 cents per pound according to area. Act of 1922:  $1\frac{1}{4}$  to  $2\frac{1}{2}$  cents per pound according to area. Act of 1930:  $1\frac{7}{8}$  to  $3\frac{3}{4}$  cents per pound according to area.<sup>12</sup> Present duty:  $1\frac{2}{64}$  to  $2\frac{5}{64}$  cents per pound according to area.<sup>13</sup>

4. *Average ad valorem equivalent.*—1934, 51 percent; 1935, 46 percent; 1936, 68 percent; 1937, 66 percent; 1938, 48 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935-----	\$18,180,053	\$119,766	(1)
1937-----	31,389,468	1,237,855	\$52,776

<sup>1</sup> Not reported separately.

6. *Industrial concentration and tariff policy.*—Technological changes, economies of large-scale production, and patents largely account for the concentration in recent years. A substantial reduction in the duty would probably increase imports moderately and would lower prices slightly in the coastal areas. The domestic industry is centered largely around Pittsburgh. The general result would likely be some reduction in excess capacity and some increase in concentration.

#### PLATE GLASS

1. *Description and use.*—Plate glass is a flat glass product with surfaces ground and polished. It is used mainly in the manufacture of safety glass for automobiles, but also for mirrors, table tops, furniture, and windows.

<sup>12</sup> Rates effective by Presidential proclamation June 13, 1929.

<sup>13</sup> Presidential-proclamation, effective January 1, 1932. Minimum rate of  $37\frac{1}{2}$  percent for 12- to 16-ounce glass. Czechoslovak trade agreement reduced rates about 30 percent, April 16, 1938, to April 22, 1939.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.-----	9	<sup>1</sup> 100	<sup>2</sup> \$46,000,000	40 percent.

<sup>1</sup> Two companies account for about 90 percent.<sup>2</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 6, 8, and 12 cents per square foot. Act of 1922: 12½, 15, and 17½ cents per square foot.<sup>14</sup> Act of 1930: 12½, 17, 17½, and 19¼ cents per square foot.<sup>15</sup> Present duty 8.3, 11.3, 11.7, and 13.2 cents per square foot.<sup>16</sup>

4. *Average ad valorem equivalent.*—1934, 78 percent; 1935, 44 percent; 1936, 55 percent; 1937, 40 percent; 1938, 63 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.-----	\$42,000,000	\$18,397	\$1,497,150
1937.-----	46,000,000	686,174	983,924

<sup>1</sup> Estimated.

6. *Industrial concentration and tariff policy.*—Technological changes, especially to meet the demand of the automobile industry, economies of large-scale production, and patents largely account for the concentration in recent years. Since the industry is on an export basis and holds the main domestic market because of nontariff factors, a substantial tariff reduction would increase slightly imports of plate glass for buildings and furniture and would probably lower prices in coastal areas. Concentration would not be appreciably affected.

## ROLLED GLASS

1. *Description and use.*—Rolled glass is a flat glass product with a rough, ribbed, figured, or fluted surface. Rough wire glass is rolled glass containing a wire netting. Colored rolled glass is another type. These products are used in the building industry.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.-----	12	80	\$4,105,837	38 percent.

<sup>14</sup> Presidential proclamation February 16, 1929, increased duty to 16, 19, and 22 cents.<sup>15</sup> Glass measuring ½ inch or more in thickness subject to minimum 50 percent.<sup>16</sup> Belgian trade agreement, effective May 1, 1935.

3. *Recent tariff history.*—Act of 1913:  $\frac{1}{2}$  or 1 cent per square foot according to area. Act of 1922:  $\frac{3}{4}$  or  $1\frac{1}{2}$  cents per square foot according to area. Act of 1930:  $1\frac{1}{2}$  cents per pound; 5 percent additional if colored, bent, beveled, etc. Present duty:  $1\frac{1}{2}$  cents per pound; 5 percent additional if colored, bent, beveled, etc.

4. *Average ad valorem equivalent.*—1934, 34 percent; 1935, 48 percent; 1936, 48 percent; 1937, 38 percent; 1938, 47 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,013,500	\$17,847	(1)
1937.....	4,105,837	73,481	\$104,120

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—The development of continuous, large-scale manufacturing of rolled glass accounts in part for the concentration in production. The largest company, however, owns five plants. A substantial reduction in the duty would probably have little effect, except in a few coastal areas, on imports and domestic prices.

#### STRUCTURAL GLASS

1. *Description and use.*—Structural glass, or obscured glass, is a flat glass product. It is a special decorative type of heavy, colored rolled glass which is frequently used as a substitute for marble, clay tile, and stone in the building industry.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	<sup>1</sup> \$1,600,000	46 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 6.8 and 12 cents according to area. Act of 1922:  $12\frac{1}{2}$ , 15, and  $17\frac{1}{2}$  cents per square foot according to area. Act of 1930:  $12\frac{1}{2}$ , 17,  $17\frac{1}{2}$ , and  $19\frac{3}{4}$  cents per square foot according to area. Present duty: 8.3, 11.3, 11.7, and 13.2 cents per square foot according to area.<sup>17</sup>

4. *Average ad valorem equivalent.*—1934, 46 percent; 1935, 42 percent; 1936, 62 percent; 1937, 46 percent; 1938, 31 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$800,000	\$7,138	(2)
1937.....	1,600,000	22,834	\$65,548

<sup>1</sup> Estimated.

<sup>2</sup> Not available.

<sup>17</sup> Belgian trade agreement, effective May 1, 1935. Minimum duty of 50 percent on thick glass ( $\frac{1}{2}$  inch or more) reduced to 40 percent if unground:

6. *Industrial concentration and tariff policy.*—The two large producers of structural glass are also the largest producers of plate glass. A substantial reduction in the duty would have very little effect, except in a few coastal areas, on imports and domestic prices. Imports have remained negligible since the reduction in the Belgian agreement.

## SAFETY GLASS (LAMINATED)

1. *Description and use.*—Laminated safety glass consists of two pieces of flat glass, plate or sheet, bound together with a layer of plastic material. It is used principally in automobiles, but also for goggles, gas masks, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	9	1 90	\$76, 504, 803	45 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913:<sup>18</sup> Act of 1922:<sup>18</sup> Act of 1930: 60 percent ad valorem. Present duty: 45 percent ad valorem.<sup>19</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$53, 282, 938	\$180	( <sup>1</sup> )
1937.....	76, 504, 803	604, 844	\$87, 161

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—The small companies make this product from purchased flat glass; the large companies also make flat glass. The latter supply on exclusive contractual basis most of the automobile trade. Imports increased in 1937 because of strikes in the domestic industry. Elimination of the duty would probably have little effect on imports and domestic prices. The domestic industry is in a very advantageous position as compared with foreign producers.

<sup>18</sup> Not separately provided for; duty unknown.

<sup>19</sup> Belgian trade agreement, effective May 1, 1935.

## GROUP G: NONFERROUS METALS AND PRODUCTS

### COPPER (BLISTER AND REFINED)

1. *Description and use.*—Copper, blister and refined, consists mainly of ingots, pigs, bars, cathodes, etc. It is a semifinished product of the smelting or refining industry from which finished copper products are manufactured.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	19	86	\$219,900,000	33 percent. <sup>1</sup>

<sup>1</sup> Duty applied to about 8 percent of imports.

3. *Recent tariff history.*—Act of 1913: free. Act of 1922: free. Act of 1930: Free.<sup>1</sup> Present duty: Import excise tax of 4 cents per pound, copper content.

4. *Average ad valorem equivalent.*—1934, 55 percent; 1935, 58 percent; 1936, 52 percent; 1937, 33 percent; 1938, 46 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports <sup>2</sup>	Exports
1935.....	\$65,400,000	\$28,486,000	\$40,258,000
1937.....	219,900,000	45,144,000	76,684,000

<sup>1</sup> Estimated.

<sup>2</sup> Mainly free of duty for reexport.

6. *Industrial concentration and tariff policy.*—The large investment required for a modern refinery, as well as the ownership of extensive ore deposits, largely account for the present concentration. Imports are mainly unrefined copper. About 90 percent of it is usually re-exported in a refined form. Removal of the import excise tax would tend to increase imports for domestic consumption and to lower domestic prices.

### COPPER SHEETS, PLATES, AND RODS

1. *Description and use.*—Copper in these forms is a semifinished product of the rolling mills. Sheets and plates are used for the manufacture of various products; rods are used mainly for making wire.

<sup>1</sup> Import excise tax of 4 cents per pound, copper content, June 21, 1932, but not applicable to imported copper for reexport.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
17.....	28	91	\$80,430,000	12 percent.

3. *Recent tariff history.*—Act of 1913: 5 percent ad valorem. Act of 1922: 2½ cents per pound. Act of 1930: 2½ cents per pound. Present duty: 2½ cents per pound plus import excise tax of 4 cents per pound.<sup>2</sup>

4. *Average ad valorem equivalent.*—1934, 20 percent; 1935, 17 percent; 1936, 40 percent; 1937, 12 percent; 1938, 20 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$48,530,000	\$1,274,835	\$3,245,600
1937.....	80,430,000		4,698,300

6. *Industrial concentration and tariff policy.*—The integration of rolling mills with primary producers accounts largely since 1922 for concentration of production. Imports are a few specialties. Exports consist mainly of rods. Reduction or removal of the duty and excise tax, providing the raw material was free of duty and tax, would not affect appreciably imports and domestic prices.

## TIN INGOTS AND PIGS

1. *Description and use.*—Tin ingots and pigs are used for plating steel and for making alloys.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
28.....	31	89	\$8,450,000	Free.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$9,650,000	\$69,815,000	\$2,375,000
1937.....	8,450,000	104,285,000	385,000

<sup>1</sup> Made from scrap; estimated.

<sup>2</sup> Import excise tax effective June 21, 1932.



6. *Industrial concentration and tariff policy.*—The domestic output of tin ingots and pigs is produced from scrap tin. Economies of large-scale production account for the concentration. Since the United States is not a producer of tin ore, no tariff problem is involved.

#### BRASS AND BRONZE TUBING AND PIPE

1. *Description and use.*—Brass and bronze tubing and pipe are used in steam plants, for condenser units in plumbing and for similar purposes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	25	79	\$34, 870, 000	40 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 8 cents per pound, bronze and seamless brass; 12 cents, brazed brass. Act of 1930: 8 cents per pound, bronze and seamless brass; 12 cents, brazed brass. Present duty: 8 cents per pound, bronze and seamless brass; 12 cents, brazed brass.<sup>3</sup>

4. *Average ad valorem equivalent.*—1934, 54 percent; 1935, 56 percent; 1936, 53 percent; 1937, 40 percent; 1938, 40 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$16, 626, 000	\$104, 000	\$188, 000
1937.....	34, 870, 000	65, 000	706, 000

6. *Industrial concentration and tariff policy.*—Technical skill, economies of large-scale production, and financial resources and integration account largely for the concentration. A substantial reduction of the duty and elimination of the tax would tend to increase imports moderately and lower prices slightly in coastal areas.

#### ALUMINUM INGOTS

1. *Description and use.*—Aluminum ingots, pigs, slabs, etc., are crude products. They are used for foundry remelting in the manufacture of more advanced products.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
24.....	33	82	<sup>1</sup> \$79, 382, 000	26 percent.

<sup>1</sup> Ingots \$27,307,000 for sale only.

<sup>3</sup> Additional 4 cents per pound on copper content, excise tax of June 1932.

3. *Recent tariff history.*—Act of 1913: 2 cents per pound. Act of 1922: 5 cents per pound. Act of 1930: 4 cents per pound. Present duty: 3 cents per pound.<sup>4</sup>

4. *Average ad valorem equivalent.*—1934, 21 percent; 1935, 23 percent; 1936, 25 percent; 1937, 26 percent; 1938, 29 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$41,088,000	\$3,646,000	\$486,000
1937.....	<sup>1</sup> 79,382,000	6,770,000	967,000

<sup>1</sup> Ingots \$27,307,000 for sale only.

6. *Industrial concentration and tariff policy.*—Experience, economies of large-scale production, and financial resources account for the present concentration. American companies own ore plants abroad. There is an international cartel. Removal of the duty would probably affect only moderately the import-domestic price situation.

#### ALUMINUM WARE

1. *Description and use.*—Aluminum ware consists of stamped, spun, and cast products. Cooking utensils are the largest class.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11 to 25 <sup>1</sup> .....	<sup>1</sup> 11-27	<sup>1</sup> 79-91	\$37,457,363	55 percent.

<sup>1</sup> Range cited indicates variation in companies, plants, and concentration for 3 types mentioned above.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 11 cents per pound plus 55 percent ad valorem. Act of 1930: 8½ cents per pound plus 40 percent ad valorem. Present duty: 8½ cents per pound plus 40 percent ad valorem.

4. *Average ad valorem equivalent.*—1934, 54 percent; 1935, 54 percent; 1936, 54 percent; 1937, 55 percent; 1938, 53 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$24,550,818	\$51,226	\$302,152
1937.....	37,457,363	48,815	411,864

6. *Industrial concentration and tariff policy.*—The largest producer of aluminum, which is the raw material for the industry, owns substantial stock of the largest manufacturer of these wares and the entire stock of the second largest manufacturer. A substantial reduc-

<sup>4</sup> Canadian trade agreement (second), effective January 1, 1939.

tion of the duty would probably increase imports, especially of the cheaper wares, and lower moderately domestic prices.

#### NICKEL ALLOYS

1. *Description and use.*—Nickel alloys include all types of plates, sheets, rods, tubing, pipe, and castings.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 to 60 <sup>1</sup> .....	<sup>1</sup> 12-60	<sup>1</sup> 76-94	<sup>2</sup> \$26, 110, 000	34 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

<sup>2</sup> For sale and interplant transfer.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: 25 percent ad valorem, plus 10 percent if cold worked. Act of 1930: 25 percent ad valorem, plus 10 percent if cold worked. Present duty: 25 percent ad valorem, plus 10 percent if cold worked.<sup>5</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	( <sup>1</sup> )	\$15, 921	( <sup>1</sup> )
1937.....	<sup>2</sup> \$26, 110, 000	7, 103	( <sup>1</sup> )

<sup>1</sup> Not available.

<sup>2</sup> For sale and interplant transfer.

6. *Industrial concentration and tariff policy.*—Ownership of ore deposits, financial resources, and integrated production on a large scale account largely for the concentration. The largest company is affiliated with an important British company. Removal of the duty would probably affect only moderately the import-domestic price situation.

#### ANTIFRICTION BEARING METAL (OTHER THAN WHITE BASE)

1. *Description and use.*—Antifriction bearing metals, other than white base (lead or tin), are those with a copper or cadmium base. They are used in machine bearings.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
20 .....	28	91	\$3, 872, 000	45 percent. <sup>1</sup>

<sup>1</sup> Cadmium.

<sup>2</sup> Reduction on tubing to 12½ percent ad valorem, plus 5 percent if cold worked; United Kingdom trade agreement, effective January 1, 1939.

3. *Recent tariff history*.—Act of 1913: Free. Act of 1922: Free. Act of 1930: Chiefly of copper, free; chiefly of cadmium, 45 percent.<sup>6</sup> Present duty: Copper content, 4 cents per pound; chiefly of cadmium, 45 percent.<sup>7</sup>

4. *Average ad valorem equivalent*.—No record of imports, and hence not available.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$1, 538, 000	(1)	(1)
1937.....	3, 872, 000	(1)	(1)

<sup>1</sup> No record of imports or exports.

6. *Industrial concentration and tariff policy*.—Patents and production according to varying specifications largely account for the concentration. There is no record of imports or exports. Apparently, the tax is of no significance.

#### FACTORY-LIGHTING FIXTURES

1. *Description and use*.—Fixtures of this nature are usually of the simplest types, many consisting of only a metal tube, a socket for a bulb, and an enameled reflector.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	10	93	\$2, 019, 972	45 percent.

3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 45 percent ad valorem. Present duty: 45 percent ad valorem.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(2)
1937.....	\$2, 019, 972	(2)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not separately reported, but probably small.

6. *Industrial concentration and tariff policy*.—Some specialization, side-line production by a few large manufacturers of many types of lighting equipment, and size of market account largely for the concentration. A substantial reduction of the duty would probably affect only moderately the import-domestic price situation.

<sup>6</sup> Cadmium not separately provided for, nor developed prior to 1930.

<sup>7</sup> Import excise tax of 4 cents per pound on copper effective June 21, 1932.

## STREET- AND HIGHWAY-LIGHTING FIXTURES

1. *Description and use.*—Street- and highway-lighting fixtures include the usual outdoor fixtures, but do not include posts and poles, nor traffic signals.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	14	89	\$2, 650, 343	45 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 45 percent ad valorem. Present duty: 45 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(2)
1937.....	\$2, 650, 343	(1)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not separately reported, but small.

6. *Industrial concentration and tariff policy.*—Limited markets and production by a few large companies which make many types of lighting equipment account for the concentration. Imports consist of special types. A substantial reduction of the duty would have little or no effect on the price.

## GROUP H: IRON AND STEEL PRODUCTS

### MUCK AND SCRAP BAR

1. *Description and use.*—Muck and scrap bar are made of wrought or common iron. Muck and scrap bar are semifinished material from which the finished products are made.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	9	1 90	\$1, 022, 547	18 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 5 percent. Act of 1922:  $\frac{3}{10}$  cents to  $1\frac{1}{2}$  cents per pound depending on value. Act of 1930:  $\frac{3}{10}$  cents to  $1\frac{1}{2}$  cents per pound depending on value. Present duty:  $\frac{1}{4}$  cent to 1 cent per pound depending on value.<sup>1</sup>

4. *Average ad valorem equivalent.*—1934, 24 percent; 1935, 21 percent; 1936, 18 percent; 1937, 18 percent; 1939, 18 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$847, 003	\$79, 499	(?)
1937.....	1, 022, 547	133, 375	(?)

<sup>1</sup> Made for sale and interplant transfer.

<sup>2</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialization and a limited market account largely for the concentration. Imports, especially Swedish iron, are sometimes preferred because of quality. A substantial reduction of the duty would probably increase imports moderately and lower prices slightly, especially in coastal areas.

### CAST IRON PIPE (CULVERT AND FLANGED)

1. *Description and use.*—Culvert and flanged pipe are special grades of cast-iron pressure pipe. The former is used for culverts, and the latter when combined rigidity, strength, and tightness are required. Flanged pipe is widely used in oil refineries and other industrial plants, but seldom in underground service.

<sup>1</sup> Duty reduction on 4 of 5 value brackets; Belgian Trade Agreement, May 1, 1935, and Swedish Trade Agreement, August 5, 1935.



2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 to 8 <sup>1</sup> .....	15-13	185-95	\$1, 158, 304	15 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the two types included.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922: 20 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 15 percent ad valorem.<sup>2</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports <sup>1</sup>
1935.....	\$837, 137	\$2, 026	\$627, 214
1937.....	1, 158, 304	68, 700	1, 092, 658

<sup>1</sup> Cast iron pipe and fittings of all kinds.

6. *Industrial concentration and tariff policy.*—Side-line production and size of market account largely for the concentration. Imports from France, the principal source, are inferior as compared with the domestic product (higher phosphorus content—more susceptible to breakage). A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### SEMIFINISHED ROLLED STEEL PRODUCTS (INCLUDING BLOOMS AND BILLETS)

1. *Description and use.*—Semifinished steel is the material from which finished-steel products are manufactured.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
15.....	25	76	} 1 236, 506, 625	25 percent.
37.....	75	84		

<sup>1</sup> Includes production for interplant transfers.

3. *Recent tariff history.*—Act of 1913: free or 15 percent ad valorem. Act of 1922:  $\frac{2}{10}$  cent per pound to  $3\frac{1}{2}$  cents per pound, or 20 percent ad valorem. Act of 1930:  $\frac{3}{10}$  cent to  $3\frac{1}{2}$  cents per pound or 20 percent ad valorem. Present duty:  $\frac{1}{4}$  cent to  $3\frac{1}{2}$  cents per pound or 20 percent ad valorem.<sup>3</sup>

4. *Average ad valorem equivalent.*—1934, 30 percent; 1935, 27 percent; 1936, 25 percent; 1937, 25 percent; 1938, 25 percent.

<sup>2</sup> French Trade Agreement, effective June 15, 1936.

<sup>3</sup> Trade Agreements with Belgium and Sweden, 1935.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$209, 831, 485	( <sup>2</sup> )	\$900, 605
1937.....	236, 506, 625	\$227, 880	13, 391, 372

<sup>1</sup> For sale and interplant transfers.<sup>2</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources, and integration account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly in coastal areas.

## STEEL, HOT-ROLLED STRIPS AND FLATS (FOR COLD ROLLING)

1. *Description and use.*—Hot-rolled steel strips and flats for cold rolling are made usually on continuous hot mills.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	24	86	\$59, 903, 714	15, 20, or 25 percent.

3. *Recent tariff history.*—Act of 1913: 12 or 15 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 15, 20,<sup>4</sup> or 25 percent ad valorem, depending on thickness.

4. *Average ad valorem equivalent.*—None.5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$40, 409, 221	\$710, 978	\$1, 283, 478
1937.....	59, 903, 714	1, 435, 280	4, 129, 168

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources, and integration account largely for the concentration. Imports consist mostly of high-grade steel for razor blades. The bulk of domestic production is low-grade steel for automobile fenders, etc. A substantial reduction of the duty would increase imports and would lower prices moderately.

## STEEL, HEAVY STRUCTURAL SHAPES

1. *Description and use.*—Heavy steel structural shapes are a main product of the steel industry. They are used in various types of construction.

<sup>4</sup> Swedish Trade Agreement, effective Aug. 5, 1935.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	32	<sup>1</sup> 90	<sup>2</sup> \$110, 873, 129	14 percent.

<sup>1</sup> Estimated.<sup>2</sup> For sale and interplant transfer.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922:  $\frac{1}{2}$  cent per pound. Act of 1930:  $\frac{1}{2}$  cent per pound. Present duty:  $\frac{1}{2}$  cent per pound.

4. *Average ad valorem equivalent.*—1934, 16 percent; 1935, 15 percent; 1936, 15 percent; 1937, 14 percent; 1938, 14 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports <sup>2</sup>	Exports <sup>2</sup>
1935.....	\$48, 874, 337	\$1, 118, 577	\$1, 493, 788
1937.....	110, 873, 129	2, 479, 239	6, 984, 169

<sup>1</sup> Made for sale and interplant transfer.<sup>2</sup> Includes both heavy and light shapes.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources, and integration largely account for the concentration. Imports are probably slightly inferior in quality of steel, accuracy of sections, etc. A substantial reduction of the duty would probably increase imports moderately and would lower prices in coastal areas.

## UNIVERSAL STEEL PLATES

1. *Description and use.*—Universal steel plates are rolled by vertical and horizontal rolls which determine both thickness and width. They are used principally for structural purposes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	28	79	<sup>1</sup> \$34, 263, 912	28 percent.

<sup>1</sup> For sale and interplant transfer.

3. *Recent tariff history.*—Act of 1913: 12 percent ad valorem. Act of 1922:  $\frac{3}{20}$  cent per pound;  $\frac{5}{10}$  cent per pound. Act of 1930:  $\frac{3}{10}$  cent per pound. Present duty:  $\frac{3}{100}$  cent per pound.<sup>5</sup>

4. *Average ad valorem equivalent.*—1934, 38 percent; 1935, 33 percent; 1936, 28 percent; 1937, 28 percent; 1938, 28 percent.

<sup>5</sup> Belgian Trade Agreement, effective May 1, 1935.

5. *Domestic production imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$19,886,955	<sup>2</sup> \$20,596	\$1,978,089
1937.....	34,263,912	<sup>3</sup> 7,160	21,506,612

<sup>1</sup> Made for sale and interplant transfer.<sup>2</sup> Includes skelp.<sup>3</sup> Excludes galvanized or coated plate.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources and integration account largely for the concentration. Imports are probably slightly inferior in quality and accuracy of rolling. A substantial reduction of the duty would increase imports moderately and would lower prices in coastal areas.

## STEEL-SHEET PILING (PLAIN)

1. *Description and use.*—Steel-sheet piling, plain, is an interlocking type of piling used for seawalls and various types of construction.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	5	100	<sup>1</sup> \$5,773,394	11 percent.

<sup>1</sup> For sale and interplant transfer.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922:  $\frac{1}{2}$  cent per pound. Act of 1930:  $\frac{1}{2}$  cent per pound. Present duty:  $\frac{1}{2}$  cent per pound.

4. *Average ad valorem equivalent.*—1934, 14 percent; 1935, 13 percent; 1936, 13 percent; 1937, 11 percent; 1938, 11 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$5,939,196	\$43,025	( <sup>2</sup> )
1937.....	5,773,394	90,179	\$464,505

<sup>1</sup> Made for sale and interplant transfer.<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—The difficulty and expense involved in rolling this product and the limited market account for the concentration. A substantial reduction of the duty would probably increase imports slightly in coastal areas.

## STEEL SKELP

1. *Description and use.*—Steel skelp is the principal material for the manufacture of welded pipes and tubes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	22	82	\$26, 684, 541	27 percent.

3. *Recent tariff history.*—Act of 1913: 12 percent ad valorem. Act of 1922:  $\frac{35}{100}$  cent to  $\frac{85}{100}$  cent per pound or 20 percent ad valorem. Act of 1930:  $\frac{45}{100}$  cent to  $\frac{85}{100}$  cent per pound or 20 percent ad valorem. Present duty:  $\frac{35}{100}$  cent to  $\frac{7}{100}$  cent per pound or 20 per cent ad valorem.<sup>6</sup>

4. *Average ad valorem equivalent.*—1934, 33 percent; 1935, 30 percent; 1936, 27 percent; 1937, 27 percent; 1938, 27 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$15, 840, 783	(1)	\$2, 146, 139
1937.....	26, 684, 541	\$455	3, 506, 898

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources, and integration account, largely, for the concentration. Imports are probably slightly inferior in quality and accuracy of gage. Substantial reduction of the duty would increase imports slightly and would lower prices in coastal areas.

## STEEL RAILS

1. *Description and use.*—Heavy steel rails (over 60 pounds per yard) are used chiefly by railroad and streetcar systems; light rails are used in mines and for other industrial purposes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5.....	14	<sup>1</sup> 95	<sup>2</sup> \$53, 716, 019	8 percent.

<sup>1</sup> Estimated.

<sup>2</sup> For sale and interplant transfer.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922:  $\frac{1}{10}$  cent per pound. Act of 1930:  $\frac{1}{10}$  cent per pound. Present duty:  $\frac{1}{10}$  cent per pound.

<sup>6</sup> Belgian trade agreement, effective May 1, 1935.

4. *Average ad valorem equivalent.*—1934, 10 percent; 1935, 9 percent; 1936, 10 percent; 1937, 8 percent; 1938, 8 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$25,541,173	(?)	\$1,454,679
1937.....	53,716,019	\$219,109	4,496,819

<sup>1</sup> Made for sale and interplant transfer.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources, and integration largely account for the concentration. Imports are light rails, whereas less than 10 percent of domestic production is light rails. A substantial reduction of the duty would probably increase moderately imports of light rails and would lower domestic prices.

#### STEEL AXLES

1. *Description and use.*—Steel axles within this classification consist primarily of those for railway use.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	9	1 90	\$11,424,076	12 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 10 percent ad valorem. Act of 1922:  $\frac{1}{10}$  cent per pound, valued at not more than 6 cents per pound. Act of 1930:  $\frac{1}{10}$  cent per pound, valued at not more than 6 cents per pound. Present duty:  $\frac{3}{10}$  cent per pound, valued at not more than 6 cents per pound.<sup>7</sup>

4. *Average ad valorem equivalent.*—1934, 16 percent; 1935, 18 percent; 1936, 15 percent; 1937, 12 percent; 1938, 18 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,041,687	\$2,542	( <sup>1</sup> )
1937.....	11,424,076	3,044	( <sup>1</sup> )

<sup>1</sup> Not reported separately, but probably ranges between \$500,000 and \$1,000,000.

6. *Industrial concentration and tariff policy.*—Manufacture according to rigid specifications, large plant investment, and production by the large steel companies largely account for the concentration. Removal of the duty would have no appreciable effect on the import-domestic price situation.

<sup>7</sup> Canadian trade agreement, effective January 1, 1939.



## STAINLESS STEEL STRIPS AND FLATS

1. *Description and use.*—Stainless steel strips and flats are highly alloyed (usually chrome or chrome-nickel) products which are used where resistance to corrosion and heat is important.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	12	<sup>1</sup> 90	<sup>2</sup> \$11, 839, 422	31 percent.

<sup>1</sup> Estimated.

<sup>2</sup> For sale and interplant transfer.

3. *Recent tariff history.*—Act of 1913: Various rates. Act of 1922: Various rates. Act of 1930: Paragraphs 304, 307, 313, and 316 (a). Present duty: Rates lowered about one-fourth.<sup>8</sup>

4. *Average ad valorem equivalent.*—1934, 36 percent; 1935, 33 percent; 1936, 31 percent; 1937, 31 percent; 1938, 31 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$3, 894, 799	( <sup>2</sup> )	( <sup>3</sup> )
1937.....	11, 839, 422	( <sup>2</sup> )	\$412, 537

<sup>1</sup> For sale and interplant transfer.

<sup>2</sup> Not separately reported.

<sup>3</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, as well as side-line production of a few large steel companies, account partly for the concentration; patents are also important. A substantial reduction of the duty would increase imports moderately and lower slightly domestic prices.

## STEEL SAW PLATES

1. *Description and use.*—Saw plates are made of high-grade steel and are used in making circular saws

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	<sup>1</sup> 85	\$3, 499, 764	23 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 12 percent ad valorem. Act of 1922: 2½, 3½ cents per pound, or 20 percent (depending on value), plus ¼ cent per pound.<sup>8</sup> Act of 1930: 2½, 3½ cents per pound,

<sup>8</sup> Belgian trade agreement effective May 1, 1935; Swedish trade agreement effective August 5, 1935.

or 20 percent (depending on value), plus one-fourth cent per pound.<sup>9</sup> Present duty: 2½, 3½ cents per pound, or 20 percent (depending on value), plus one-fourth cent per pound.<sup>9</sup>

4. *Average ad valorem equivalents.*—1934 to 1938, 23 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$1, 673, 451	\$10, 378	( <sup>2</sup> )
1937.....	3, 499, 764	10, 894	( <sup>2</sup> )

<sup>1</sup> For sale and interplant transfers.

<sup>2</sup> Not classified separately.

6. *Industrial concentration and tariff policy.*—Side-line production of a few steel manufacturers and a limited market account for the concentration. A substantial reduction of the duty would probably increase imports moderately and would lower prices.

#### STEEL COTTON TIES

1. *Description and use.*—Steel cotton ties are thin bands of steel equipped with buckles. They are used mainly for baling cotton.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	4	100	\$3, 329, 293	12 percent.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: One-fourth cent per pound. Act of 1930: One-fourth cent per pound. Present duty: One-fifth cent per pound.<sup>10</sup>

4. *Average ad valorem equivalent.*—1934, 14 percent; 1935, 14 percent; 1936, 13 percent; 1937, 12 percent; 1938, 12 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 072, 415	\$344, 035	( <sup>1</sup> )
1937.....	3, 329, 293	19, 750	( <sup>1</sup> )

<sup>1</sup> Not separately classified.

6. *Industrial concentration and tariff policy.*—Side-line production and limited market account largely for the concentration. Imports are probably slightly inferior (underweight) as compared with the domestic product. A substantial reduction of the duty would increase imports moderately, would lower prices slightly, and would accentuate industrial concentration.

<sup>9</sup> Rates cited are for steel circular saw plates valued over 8 cents per pound; imports valued at less are negligible.

<sup>10</sup> Belgian trade agreement, effective May 1, 1935.

## BLACK PLATE STEEL (FOR TINNING)

1. *Description and use.*—Black plate steel for tinning is hot-reduced on hand mills, or is cold-reduced on modern continuous mills. It is used for the manufacture of tin plate.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12.....	25	76	\$27,342,968	27 percent

3. *Recent tariff history.*—Act of 1913: 12 percent. Act of 1922: Forty-five one-hundredths cent per pound to eighty-five one-hundredths cent per pound. Act of 1930: Forty-five one-hundredths cent per pound to eighty-five one-hundredths cent per pound. Present duty: Thirty-five one-hundredths cent per pound to seventy one-hundredths cent per pound.<sup>11</sup>

4. *Average ad valorem equivalent.*—1934, 33 percent; 1935, 30 percent; 1936, 27 percent; 1937, 27 percent; 1938, 27 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	(1)	\$5,649	\$6,549,830
1937.....	\$27,342,968	11,912	22,464,346

<sup>1</sup> Not available.

<sup>2</sup> Slightly more inclusive than domestic production.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, financial resources, and integration account largely for the concentration. Imports are slightly inferior in quality and in accuracy of gage as compared with domestic products. A substantial reduction of the duty would increase imports moderately and would lower prices slightly in coastal areas.

## TIN CANS

1. *Description and use.*—Tin cans included here are packers' vent-hole top and sanitary cans, and beer cans. They are used for packaging foods, beverages, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5-18 <sup>1</sup> .....	<sup>1</sup> 17-140	<sup>1</sup> 89-95	\$199,168,414	45 percent.

<sup>1</sup> Range cited indicates variation in companies, plants, and concentration for the above types.

<sup>11</sup> Belgian trade agreement, effective May 1, 1935.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 45 percent ad valorem. Present duty: 22½ percent ad valorem.<sup>12</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	<sup>1</sup> \$168, 763, 681	( <sup>2</sup> )	\$948, 833
1937.....	199, 168, 414	( <sup>2</sup> )	1, 727, 672

<sup>1</sup> Beer cans not included.

<sup>2</sup> Negligible.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production and financial resources account largely for the concentration. Because of their bulk, cans are usually made near the point of consumption. Removal of the duty would probably have very little effect on the import-domestic price situation.

#### METAL FURNITURE

1. *Description and use.*—The products under review include only metal office chairs, metal beauty-parlor furniture, and upholstered metal household furniture.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
15-146 <sup>1</sup> .....	<sup>1</sup> 15-161	<sup>1</sup> 88-90	\$18, 134, 536	45 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the items above.

3. *Recent tariff history.*—Act of 1913: 20 percent. Act of 1922: 40 percent. Act of 1930: 45 percent. Present duty: 45 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$9, 717, 261	( <sup>1</sup> )	( <sup>2</sup> )
1937.....	18, 134, 536	( <sup>1</sup> )	( <sup>2</sup> )

<sup>1</sup> Not separately reported, negligible.

<sup>2</sup> Not available, but probably substantial.

6. *Industrial concentration and tariff policy.*—Production by a few large manufacturers of a full line of similar metal products, and economies of large-scale production account largely for the concentration. A substantial reduction of the duty would probably increase moderately imports of a few foreign specialty items and would lower prices slightly.

<sup>12</sup> Trade agreement with the United Kingdom, effective Jan. 1, 1939.

## SOLID METAL WINDOW SASH AND FRAMES (NONFERROUS)

1. *Description and use.*—A window sash is a framework to which panes of glass are attached. The sash is incased in a frame by which the sash is attached to the wall opening. Nonferrous metal sashes and frames are used only in the highest grade residential construction.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	18	87	\$864, 513	45 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent Act of 1922: 40 percent. Act of 1930: 45 percent. Present duty: 45 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$589, 457	(1)	(1)
1937.....	864, 513	(1)	(1)

<sup>1</sup> Not separately reported, but negligible.

6. *Industrial concentration and tariff policy.*—Specialized production for a limited market accounts for the concentration. Importers of British sash and frames in recent years have begun the manufacture of these products in the United States. A substantial reduction of the duty would tend to increase imports and lower prices slightly.

## FIREARMS

1. *Description and use.*—Firearms included here consist of pistols, revolvers, rifles, and shotguns of all types which use explosive cartridges.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6-8 <sup>1</sup> .....	17-10	190-95	\$21, 142, 800	36 percent

<sup>1</sup> Range cited indicates variation in companies, plants, and concentration for the above types of firearms

3. *Recent tariff history.*—Act of 1913: 35 percent ad valorem. Act of 1922: Specific rates and 45, 50, or 55 percent ad valorem according to value. Act of 1930: Specific rates and 45, 50, or 55 percent

ad valorem according to value. Present duty: Specific rates and 45, 50, or 55 percent ad valorem according to value.<sup>13</sup>

4. *Average ad valorem equivalent.*—1934, 83 percent; 1935, 41 percent; 1936, 37 percent; 1937, 36 percent; 1938, 38 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$11,845,900	\$168,800	\$741,300
1937.....	21,142,800	298,600	1,841,400

6. *Industrial concentration and tariff policy.*—Horizontal combination and financial resources largely account for the present concentration. The domestic product is of high quality and comparatively inexpensive. Removal of the duty would probably have only a moderate effect on imports and domestic prices.

#### OIL BURNERS

1. *Description and use.*—Oil burners include the following types: forced or mechanical draft, commercial; fuel oil boiler-burner; and atmospheric draft, domestic.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11-20 <sup>1</sup> .....	<sup>1</sup> 11-20	<sup>1</sup> 79-94	\$3,131,739	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,953,113	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	3,131,739	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, marketing and servicing facilities, size of market, and some patents account largely for the concentration. Removal of the duty would probably have very little effect on the import-domestic price situation.

<sup>13</sup> Duty on shotguns and parts reduced 50 percent in Belgian trade agreement effective May 1, 1935; similar reduction on rifles valued at more than \$50 each in trade agreement with the United Kingdom, effective January 1, 1939.



## GAS BURNERS (FOR FURNACES AND BOILERS)

1. *Description and use.*—The gas burners considered here are complete furnace-burner and boiler-burner units for heating systems.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9-21 <sup>1</sup> .....	<sup>1</sup> 9-21	<sup>1</sup> 76-95	\$3, 105, 586	45 percent.

<sup>1</sup> Changes cited indicate variation in companies, plants, and concentration for the two types included above.

3. *Recent tariff history.*—Act of 1913: 20 percent. Act of 1922: 40 percent. Act of 1930: 45 percent. Present duty: 45 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 168, 531	(1)	(1)
1937.....	3, 105, 586	(1)	(1)

<sup>1</sup> Not reported separately, but negligible.

6. *Industrial concentration and tariff policy.*—Specialization, limited market, promotional expense, and patents account largely for the concentration. These products are American specialties. Reduction or removal of the duty would not affect appreciably the (import-domestic) price situation.

## STOVES AND RANGES

1. *Description and use.*—Stoves and ranges here considered are primarily for cooking. Included are: Kerosene, porcelain enameled gas without ovens, nonporcelain coal and wood, coal, wood, and gas, and gasoline stoves and ranges.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 to 22 <sup>1</sup> .....	<sup>1</sup> 5-23	<sup>1</sup> 79-99	\$27, 166, 000	25 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above enumerated types.

3. *Recent tariff history*.—Act of 1913: 20 percent. Act of 1922: 40 percent. Act of 1930: 45 percent. Present duty: 25 percent.<sup>14</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$20,972,000	(2)	\$500,000
1937.....	27,166,000	(2)	500,000

<sup>1</sup> Estimated.

<sup>2</sup> Negligible.

6. *Industrial concentration and tariff policy*.—Economies of large-scale production, specialization in certain types, and marketing facilities probably account for the concentration. Removal of the duty would not affect appreciably the (import-domestic) price situation.

#### KEROSENE ROOM HEATERS

1. *Description and use*.—Kerosene room heaters (wick and wickless) are portable units commonly used in the heating of individual rooms.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 to 8 <sup>1</sup> .....	17-9	187-97	\$3,706,699	45 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the 2 types included above.

3. *Recent tariff history*.—Act of 1913: 20 percent. Act of 1922: 40 percent. Act of 1930: 45 percent. Present duty: 45 percent.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	(2)	(3)	\$67,640
1937.....	\$3,706,699	(3)	90,219

<sup>1</sup> Includes kerosene water heaters.

<sup>2</sup> Not available.

<sup>3</sup> Negligible.

6. *Industrial concentration and tariff policy*.—Specialization in the manufacture of kerosene-burning equipment accounts for the concentration. Reduction or removal of the duty would probably have little effect on the import-domestic price situation.

<sup>14</sup> Swedish trade agreement, August 5, 1935.

## WATER HEATERS

1. *Description and use.*—These water heaters include coal and wood (with storage tanks); kerosene, wick and wickless; and distillate types. They are used principally in homes equipped with plumbing, but with no available supply of gas.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 to 17 <sup>1</sup> -----	<sup>1</sup> 6-17	<sup>1</sup> 77-99	\$1, 579, 214	45 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent. Act of 1922: 40 percent. Act of 1930: 45 percent. Present duty: 45 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935-----	(1)	(2)	(2)
1937-----	\$1, 579, 214	(2)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not reported separately, but known to be small.

6. *Industrial concentration and tariff policy.*—Many companies are in a position to manufacture these types of water heaters, but because of the small demand few include them in their production. There is no regular import trade in these classes. Reduction of duty would probably have no substantial effect on either the amount of imports or on price.

## COPPER RADIATORS

1. *Description and use.*—Copper radiators are used primarily in hot-water heating systems for residences.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11-----	11	83	\$2, 269, 969	45 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent. Act of 1922: 40 percent. Act of 1930: 45 percent. Present duty: 45 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$993, 921	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	2, 269, 969	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not separately reported; both exports and imports are probably small.

6. *Industrial concentration and tariff policy.*—Specialization and limited market account for the concentration. Copper radiators are in large part an American specialty; imports and exports are probably negligible. Reduction or removal of the duty would have little or no effect on the import-domestic price situation.

## PLUMBERS' SUPPLIES (ENAMELED IRON)

1. *Description and use.*—Plumbers' supplies included here are enameled iron sanitary fixtures of the types used in bathrooms, kitchens, hospitals, public buildings, etc. They consist of such articles as bathtubs, sinks, lavatories, laundry tubs, and drinking fountains.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
24 <sup>1</sup> .....	130	175	\$34, 677, 059	73 percent.

<sup>1</sup> Estimated for the above classes as a group.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 5 cents per pound plus 30 percent ad valorem. Act of 1930: 5 cents per pound plus 30 percent ad valorem. Present duty: 5 cents per pound plus 15 percent ad valorem.<sup>15</sup>

4. *Average ad valorem equivalent.*—1935, 50 percent; 1936, 52 percent; 1937, 73 percent; 1938, 57 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$24, 261, 190	\$48	\$439, 875
1937.....	34, 677, 059	26	940, 898

<sup>1</sup> Includes a small production of enameled steel.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, establishment of brands and designs, extensive marketing facilities, and consolidations account for the concentration. The largest company owns many plants (about 20) located in 8 foreign countries. These products are American specialties. Reduction or removal of the duty would not affect the import-domestic price situation.

<sup>15</sup> Swedish trade agreement, effective August 5, 1935.

## SADDLERY AND HARNESS HARDWARE

1. *Description and use.*—Saddlery and harness hardware includes buckles, rings, snaps, bits, swivels, and other metal articles used on harnesses and saddles.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
21.....	22	82	\$3, 357, 161	35, 50, and 60 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent; 50 percent if gold- or silver-plated. Act of 1922: 35 percent, harness hardware; 50 percent, saddlery; 60 percent, gold- or silver-plated. Act of 1930: 35 percent, harness hardware; 50 percent, saddlery; 60 percent, gold- or silver-plated. Present duty: 20 percent, harness hardware; 25 percent, saddlery hardware; 30 percent, gold- or silver-plated hardware.<sup>16</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3, 222, 068	\$19, 001	\$97, 941
1937.....	3, 357, 161	21, 226	127, 766

6. *Industrial concentration and tariff policy.*—Specialization and limited market account for the concentration. Imports consist largely of high-quality products. The recent reduction of the duty is likely to increase imports moderately.

## METAL WORKING FILES AND RASPS

1. *Description and use.*—Metal working files and rasps comprise most of the file and rasp production. They are produced in a multitude of styles, cuts, and sizes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	16	89	\$12, 355, 744	16 percent.

<sup>16</sup> United Kingdom trade agreement, effective January 1, 1939.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 25 to 77½ cents per dozen depending on size. Act of 1930: 25 to 77½ cents per dozen depending on size. Present duty, 20 to 45 cents per dozen depending on size.<sup>17</sup>

4. *Average ad valorem equivalent.*—1934, 22 percent; 1935, 21 percent; 1936, 16 percent; 1937, 16 percent; 1938, 16 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$8,466,147	\$21,672	\$1,720,821
1937.....	12,355,744	22,045	2,474,141

6. *Industrial concentration and tariff policy.*—Specialization and economies of large-scale production account for the concentration. Imports consist mainly of files for precision work. Elimination of the duty would probably increase moderately imports of precision files and would lower prices slightly.

<sup>17</sup> Swedish trade agreement, effective August 5, 1935; Swiss trade agreement, effective February 15, 1936.



## GROUP I: AGRICULTURAL AND AUTOMOTIVE MACHINERY AND RELATED PRODUCTS

### AGRICULTURAL IMPLEMENTS

1. *Description and use.*—Agricultural implements include combines, corn pickers, certain types of cultivators and plows, grain drills, disc harrows, manure spreaders, milking machines, mowers, and incubators.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 to 31 <sup>1</sup> .....	19-33	177-91	\$84,308,224	Free.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.<sup>1</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$36,451,234	( <sup>1</sup> )	\$1,912,902
1937.....	84,308,224	( <sup>1</sup> )	3,640,558

<sup>1</sup> Not available, but known to be large.

6. *Industrial concentration and tariff policy.*—Full-line production, financial resources and integration, establishment of trade names, and patents largely account for the present concentration. There are eight full-line companies. Imports consist mostly of products made by American branch plants in Canada. In the second Canadian trade agreement the above products were bound on the free list.

### WHEEL-TYPE TRACTORS

1. *Description and use.*—Wheel-type tractors include all tractors except the track-laying and garden types.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 to 11 <sup>1</sup> .....	13-11	182-100	\$159,685,695	Free.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the different types included in this category.

<sup>1</sup> Bound free in Canadian trade agreement, effective January 1, 1939.

3. *Recent tariff history*.—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$83,427,604	\$755,700	\$5,323,234
1937.....	159,685,605	1,379,155	20,152,860

<sup>1</sup> Includes track-laying and garden types.

6. *Industrial concentration and tariff policy*.—Specialization, sideline production by large manufacturers of farm implements and gasoline automotive products, financial resources, and patents account largely for the concentration. Imports consist mostly of tractors made in the Ford plant in England. In the Canadian trade agreement (second), effective January 1, 1939, a large number of agricultural implements were bound on the free list (par. 1604), but tractors were not included.

#### CREAM SEPARATORS

1. *Description and use*.—Cream separators include the farm types and the large-capacity installations for gathering stations, creameries, etc.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	86	\$3,812,168	5 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: Free, value not over \$75; 20 percent, value over \$75. Act of 1922: Free, value not over \$50; 25 percent, value over \$50. Act of 1930: Free, value not over \$50; 25 percent, value over \$50. Present duty: Free, value not over \$50; <sup>2</sup> 12½ percent, value bracket \$50–\$100; <sup>3</sup> 25 percent, value over \$100.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$4,448,983	\$552,820	\$79,909
1937.....	3,812,168	593,594	79,222

6. *Industrial concentration and tariff policy*.—Production by large manufacturers of farm implements and centrifugal equipment, establishment of trade names, and extensive marketing facilities account

<sup>2</sup> Duty free status bound, Finnish agreement, effective November 2, 1936, Canadian agreement, January 1, 1939.

<sup>3</sup> Finnish trade agreement.

largely for the concentration. Imports consist mostly of separators valued at about \$25. A substantial reduction of the duty would probably not affect appreciably the import-domestic price situation.

#### HAND IMPLEMENTS (AGRICULTURAL AND INDUSTRIAL)

1. *Description and use.*—Agricultural and industrial hand implements include forks, hoes, rakes, spades, shovels, and scoops for agricultural or garden use and for industrial purposes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13 and 31.....	13 and 36	<sup>1</sup> 88 and 90	\$13, 936, 944	41 and 30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free; 8 cents each, plus 45 percent; or 30 percent, depending on kind. Act of 1930: 8 cents each, plus 45 percent, or 30 percent, depending on kind. Present duty: 2 cents each, plus 12 percent; 7½ percent; or 15 percent, depending on kind.<sup>4</sup>

4. *Average ad valorem equivalent.*—(Not available except for 1937—41 and 30 percent).

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$10, 885, 904	\$47, 244	<sup>1</sup> \$248, 775
1937.....	13, 936, 944	79, 830	608, 835

<sup>1</sup> Does not include "hay and manure forks."

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, marketing facilities, and establishment of brands account largely for the concentration. Removal of the duties would have with regard to the import-domestic price situation only a moderate effect on forks, hoes, and rakes, and only a very slight effect on shovels, spades, and scoops.

#### WASHING MACHINES (GAS OR GASOLINE-ENGINE DRIVEN)

1. *Description and use.*—Engine-driven washing machines are used in localities where electricity is not available.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
25.....	27	75	\$9, 225, 949	27½ percent.

<sup>4</sup> Presidential proclamation, May 3, 1933, reduced the duties 50 percent. United Kingdom trade agreement, effective January 1, 1939.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 27½ percent ad valorem. Present duty: 27½ percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$8,986,000	(1)	-----
1937.....	9,225,949	(1)	-----

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production and establishment of brands probably account for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

#### MIXING VALVE ENGINES (NOT MOTOR VEHICLE)

1. *Description and use.*—Mixing valve engines are commonly called gas engines and burn natural, illuminating, or producer gas made or supplied in the gaseous form outside the engine.

2. *Industrial concentration, 1937*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937 Free, ad valorem rate, or equivalent
9.....	9	94	\$4,824,171	35 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$904,722	(1)	(1)
1937.....	4,824,171	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization and limited market probably account for the concentration. Removal of the duty would have very little effect, if any, on the import-domestic price situation.

#### STEAM TURBINES (OTHER THAN MARINE)

1. *Description and use.*—Steam turbines are used principally for driving electric generators. They range in size from 250,000 horsepower to the small locomotive lighting units.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	10	87	\$12, 860, 673	20 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 15 percent ad valorem. Act of 1930: 20 percent ad valorem. Present duty: 20 percent ad valorem.<sup>5</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$12, 860, 673	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Technical skill with regard to production and installation and financial resources account largely for the concentration. Removal of the duty would probably have little or no effect on the import-domestic price situation.

## MOTOR-VEHICLE ENGINES (PASSENGER CAR, TRUCK, AND BUS)

1. *Description and use.*—Motor-vehicle engines are sometimes made for separate sale. Some manufacturers purchase engines to install in their vehicles. Included here are passenger car engines and truck and bus engines for separate sale.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 and 7.....	3-7	(1)	\$11, 277, 197	25 percent.

<sup>1</sup> Over 90 percent; estimated.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 25 percent with conditional duty. Act of 1930: 25 percent with conditional duty. Present duty: 25 percent ad valorem.<sup>6</sup>

4. *Average ad valorem equivalent.*—None

5. *Domestic production, imports, and exports.*

Year	Domestic production	Imports	Exports
1935.....	\$6, 582, 540	\$1, 779	\$3, 001, 104
1937.....	11, 277, 197	1, 541	9, 040, 778

<sup>5</sup> Bound by United Kingdom trade agreement, effective January 1, 1939.

<sup>6</sup> Conditional duty provision repealed by terms of Trade Agreement Act of June 12, 1934.

6. *Industrial concentration and tariff policy.*—Specialized production for sale and limited number of purchases account for the concentration. Nearly all manufacturers of cars make their own engines rather than purchase them. Removal of the duty would have little or no effect on the import-domestic price situation.

## AIRCRAFT ENGINES (CARBURETOR TYPE)

1. *Description and use.*—Aircraft engines consist primarily of the radial air-cooled type and the newer liquid-cooled-in-line engines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
19.....	19	1 90	\$28, 576, 971	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913.<sup>7</sup> Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$12, 610, 285	\$54, 142	\$2, 459, 317
1937.....	28, 576, 971	18, 586	5, 946, 054

<sup>1</sup> Excludes engines made for installation in aircraft manufactured in same plant.

6. *Industrial concentration and tariff policy.*—Experimental research, financial resources, and patents largely account for the concentration. Reduction or removal of the duty would have very little effect on the import-domestic price situation.

## MARINE OUTBOARD MOTORS

1. *Description and use.*—Outboard motors are relatively light gasoline motors which are attachable to the stern of boats. They are largely used on small fishing and pleasure craft.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3.....	3	100	\$4, 519, 376	30 percent.

<sup>7</sup> No specific provision for aircraft and parts.



3. *Recent tariff history*.—Act of 1913: No specific provision. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 17½ percent.<sup>8</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$2, 384, 967	(1)	\$328, 312
1937.....	4, 519, 376	(1)	628, 337

<sup>1</sup> Not available.

<sup>2</sup> Other than those installed.

6. *Industrial concentration and tariff policy*.—Recent consolidations, establishment of trade-names, and patents largely account for the present concentration. One American company has a branch-plant in Canada. The recent reduction of the duty probably will increase imports moderately and lower prices slightly.

#### DIESEL ENGINES (MARINE AND AUXILIARY)

1. *Description and use*.—Diesel engines for connection to propeller shafts by reduction gearing and those for electric and auxiliary drive are included in this category.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 and 9.....	7-9	90-95	\$6, 604, 782	27½ percent.

3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 27½ percent ad valorem. Present duty: 27½ percent ad valorem.<sup>9</sup>

4. *Average ad valorem equivalent*.—None

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$6, 604, 782	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Some specialization and production by large manufacturers of other types of Diesel engines probably account for the concentration. Removal of the duty on these types would have only a moderate effect on the import-domestic price situation.

<sup>8</sup> United Kingdom Trade Agreement, effective January 1, 1939.

<sup>9</sup> Some minor reductions in small engines, not primarily for marine use, were made under United Kingdom Trade agreement, effective January 1, 1939.

## PASSENGER CARS AND PASSENGER CAR CHASSIS

1. *Description and use.*—Passenger cars and their chassis include all types of passenger-carrying vehicles except large public conveyances.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
15.....	59	90	\$2, 309, 215, 091	10 percent.

3. *Recent tariff history.*—Act of 1913: 30 percent, value under \$2,000; 45 percent, value over \$2,000. Act of 1922: 25 percent ad valorem with conditional duty. Act of 1930: 10 percent ad valorem with conditional duty. Present duty: 10 percent ad valorem.<sup>10</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports <sup>2</sup>
1935.....	\$1,765,591,000	\$268, 804	\$94, 510, 757
1937.....	2, 309, 215, 091	964, 002	134, 814, 725

<sup>1</sup> Includes used cars not separately classified.

<sup>2</sup> Not including used cars.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, marketing and servicing facilities, establishment of brands, and financial resources and integration account largely for the concentration. Imports consist of a few high-priced cars and a somewhat larger number of small, low-priced cars. Removal of the duty would have little or no effect on the import-domestic price situation.

## COMMERCIAL CARS, TRUCKS, AND BUSES (INCLUDING CHASSIS)

1. *Description and use.*—Commercial cars, trucks, and busses include all types of commercial vehicles, as well as light delivery types built on passenger car chassis.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
82.....	122	75	\$539, 571, 059	10 and 25 percent.

<sup>10</sup> Conditional duty provision repealed by terms of the Trade Agreement Act of June 12, 1934.

3. *Recent tariff history.*—Act of 1913: 30 percent, value less than \$2,000; 45 percent, value over \$2,000. Act of 1922: 25 percent ad valorem with conditional duty. Act of 1930: 10 and 25 percent depending on value and size, with conditional duty. Present duty: 10 and 25 percent depending on value and size.<sup>11</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$387, 395, 000	<sup>1</sup> \$7, 001	\$50, 456, 406
1937.....	539, 571, 059	( <sup>2</sup> )	100, 173, 529

<sup>1</sup> Not including used types.

<sup>2</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, marketing and servicing facilities, establishment of brands, and financial resources account largely for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

<sup>11</sup> Conditional duty repealed by terms of the Trade Agreements Act of June 12, 1934.

## GROUP J: MACHINE TOOLS AND EQUIPMENT

### BENDING MACHINES (SHEET METAL BRAKES)

1. *Description and use.*—Bending machines include here those used in creasing, bending, or folding sheet metal for air ducts, cave troughs, roofing, cans, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	11	95	\$1, 166, 625	30 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	<sup>1</sup> \$485, 000	( <sup>2</sup> )	( <sup>2</sup> )
1937.....	1, 166, 625	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Estimated.

<sup>2</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Specialization and size of market account for the concentration. The more complex types of these machines designed for large and rapid output are American specialties. Imports are probably nil. Reduction or removal of the duty would probably have very little effect on the import-domestic price situation.

### BORING MACHINES

1. *Description and use.*—Boring machines include precision, horizontal, vertical machines, and boring, drilling, and milling combinations.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 to 14 <sup>1</sup> .....	13-14	179-100	\$5, 094, 087	30 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history*.—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(1)
1937.....	\$5,094,087	(2)	(1)

<sup>1</sup> No comparable data available.

<sup>2</sup> Probably nil.

6. *Industrial concentration and tariff policy*.—Specialization, technical skill, and size of market account for the concentration. These machines are heavy, expensive types of equipment; in part, specially developed for American use. Reduction or removal of the duty would have little, if any, effect on the import-domestic price situation.

#### BORING MILLS

1. *Description and use*.—Boring mills include various general utility types; heavy duty, with sidehead, without sidehead; and the vertical type.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 to 6 <sup>1</sup> .....	13-6	190-100	<sup>2</sup> \$2,962,759	30 percent.

<sup>1</sup> Range indicates variation in concentration among the types enumerated above.

<sup>2</sup> Figure covers only sidehead units smaller than 59 inches.

3. *Recent tariff history*.—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(2)
1937.....	<sup>4</sup> \$2,962,759	(2)	(2)

<sup>1</sup> No comparable data available.

<sup>2</sup> Probably nil.

<sup>3</sup> Probably large.

<sup>4</sup> Figure covers only side head units smaller than 59 inches.

6. *Industrial concentration and tariff policy*.—Specialization, technical skill, and size of market account largely for the concentration. A substantial reduction of the duty would have little effect on the import-domestic price situation.

## BROACHING MACHINES

1. *Description and use.*—Broaching machines operate by pushing a cutting tool through holes in metal parts.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	1 85	\$2, 236, 683	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$825, 096	(1)	(1)
1937.....	2, 236, 683	(1)	(1)

<sup>1</sup> No comparable data.

6. *Industrial concentration and tariff policy.*—Specialization, technical skill, and size of market account for the concentration. The American-made machines are of special designs. Imports are probably nil. A substantial reduction of the duty would probably affect moderately the import-domestic price situation.

## CUTTING-OFF MACHINES

1. *Description and use.*—Cutting-off machines here include small metal-cutting band saw and hacksaw machines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 to 7 <sup>1</sup> .....	1 5-7	1 90-95	\$1, 204, 456	30 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the 2 above items.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$405, 879	(1)	(1)
1937.....	1, 204, 456	(1)	(1)

<sup>1</sup> No comparable data available.



6. *Industrial concentration and tariff policy.*—Specialization, side-line production, and size of market account for the concentration. Imports are probably very small as compared with domestic production. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

## DIE-CASTING MACHINES

1. *Description and use.*—Die-casting machines are used for the production of castings from molten metal which is forced into the dies under pressure. Alloy metals with low melting points, such as zinc and antimony, are generally used.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	1 85	\$530, 705	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$530, 705	(1)	(1)

<sup>1</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Specialization and patents account for the present concentration. Most of the patents have recently expired. These machines are American specialties. Reduction or removal of the duty would have little or no effect on the import-domestic price situation.

## DRILLING MACHINES

1. *Description and use.*—Drilling machines here include combined vertical and horizontal; radial; sensitive, multiple-spindle; horizontal; standard vertical; and combination drilling and tapping types.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 to 16 <sup>1</sup> .....	1 5-16	1 76-95	\$12, 293, 606	30 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history*.—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.<sup>1</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935	\$3,819,947	(1)	(1)
1937	12,293,606	(1)	(1)

<sup>1</sup> No comparable data available.

6. *Industrial concentration and tariff policy*.—Specialization, technical skill, and size of market account for the concentration. Many of these machines are heavy, special, costly, precision-type forms of equipment. Exports greatly exceed the small volume of imports. Reduction of the duty, with the exception of the smaller common types of machines, would have little effect on the import-domestic price situation.

#### DROP HAMMERS

1. *Description and use*.—Drop hammers are used to make forgings by forcing heated steel parts into impression dies.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5	5	190	\$1,740,263	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935	\$548,415	(1)	(1)
1937	1,740,263	(1)	(1)

<sup>1</sup>No comparable data available.

6. *Industrial concentration and tariff policy*.—Specialization and size of market account for the concentration. Imports are probably nil, but similar machines are made abroad. A substantial reduction of the duty would probably affect only moderately the import-domestic price situation.

<sup>1</sup> 15 percent on jig boring machines, Swiss trade agreement, effective February 15, 1936.

## HOBBING MACHINES

1. *Description and use.*—Hobbing machines cut gears by using an appropriately shaped rotating cutting tool. They are designed for many different types of work.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	<sup>1</sup> 85	\$3, 292, 954	40 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 40 percent. Present duty: 40 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	\$10, 092	(1)
1937.....	\$3, 292, 954	42, 767	(1)

<sup>1</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Specialization, technical skill, and patents account largely for the concentration. Imports have a much lower unit value than the domestic machines. A substantial reduction of the duty would probably increase imports moderately if at all and would lower prices slightly.

## GEAR-CUTTING MACHINES

1. *Description and use.*—Gear-cutting machines include the generator type, which is most commonly used, and other types.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	<sup>1</sup> 90	\$7, 384, 948	40 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 40 percent. Present duty: 40 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	(1)	(1)	\$1,440,635
1937.....	\$7,384,948	(1)	2,605,555

<sup>1</sup> No comparable data available.<sup>2</sup> Includes all types of gear cutters.

6. *Industrial concentration and tariff policy.*—Specialization and technical skill account for the concentration. There is no record of imports. A substantial reduction of the duty would probably affect imports and domestic prices only slightly.

## GRINDING MACHINES (EXCEPT TOOL AND SNAGGING)

1. *Description and use.*—Grinding machines include centerless, cylindrical (internal and external), and universal grinders; vertical and horizontal surface grinders. They are often precision machines used in repetitive processes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 to 11 <sup>1</sup> .....	<sup>1</sup> 6-11	<sup>1</sup> 75-90	\$20,850,452	30 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$9,402,416	(1)	\$4,815,881
1937.....	20,850,452	(1)	9,391,003

<sup>1</sup> No comparable data available.<sup>2</sup> Includes tool grinders.

6. *Industrial concentration and tariff policy.*—Specialization, technical skill, and patents account largely for the concentration. Exports are temporarily large because of armament demands abroad. Reduction or removal of the duty would probably have little or no effect on the import-domestic price situation.

## HONING AND LAPPING MACHINES

1. *Description and use.*—Honing and lapping machines are used to give a smooth finish to cylinder liners, valves, valve seats, and many similar items.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	9	96	\$692, 299	30 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$413, 489	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	692, 299	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Experimentation, specialization, size of market, and patents account for the concentration. These products are largely American specialties. A few machines are exported. Elimination of the duty would not affect the import-domestic price situation.

## LATHES

1. *Description and use.*—Lathes include bench, heavy duty, gap, automatic single spindle bar and multiple spindle bar, and turret types.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4 to 13 <sup>1</sup> .....	<sup>1</sup> 4-13	<sup>1</sup> 88-100	<sup>2</sup> \$50, 000, 000	30 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above enumerated types.

<sup>2</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(4)
1937.....	<sup>2</sup> \$50,000,000	(3)	(4)

<sup>1</sup> Not available.<sup>2</sup> Estimated.<sup>3</sup> Negligible.<sup>4</sup> Not available but large.

6. *Industrial concentration and tariff policy.*—Although there are approximately 40 lathe-builders, specialization probably accounts for the concentration in the above types. Imports are probably negligible; exports are substantial. Reduction or removal of the duty would have only a minor effect on the import-domestic price situation.

## MILLING MACHINES

1. *Description and use.*—Milling machines include various power-feed types: universal, planer, vertical, automatic, plain; and the hand-feed type.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 to 11 <sup>1</sup> .....	<sup>1</sup> 7-11	<sup>1</sup> 81-100	<sup>1</sup> \$19,585,925	30 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration among the above listed items.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$6,955,683	(1)	(2)
1937.....	19,585,925	(1)	(2)

<sup>1</sup> Not available.<sup>2</sup> Not available, but large.

6. *Industrial concentration and tariff policy.*—Specialization probably accounts for the concentration. Actual imports are probably small, but potential imports are large. A substantial reduction of the duty would probably increase imports slightly and would lower prices only moderately.



## PLANERS

1. *Description and use.*—Planers include standard and open side types.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	6	1 90	\$1, 556, 450	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$552, 998	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	1, 556, 450	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Specialization, technical skill, and size of market account for the concentration. These products are large, heavy, costly machines; probably more adequate technically than foreign machines. Removal of the duty would have little effect on the import-domestic price situation.

## PORTABLE ELECTRIC DRILLS

1. *Description and use.*—Portable electric drills are powered by electricity and are used to drill holes in metal and other materials.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
25.....	26	88	\$4, 152, 509	30 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$2, 556, 080	( <sup>2</sup> )	\$948, 536
1937.....	4, 152, 509	( <sup>2</sup> )	1, 232, 065

<sup>1</sup> Electric portable tools.

<sup>2</sup> No comparable data available.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and some side-line production probably account for the concentration. These tools are in large part an American specialty. Substantial reduction of the duty or its removal would probably increase imports of low-grade tools very little and would lower prices slightly, if at all.

## PORTABLE ELECTRIC GRINDERS

1. *Description and use.*—Portable electric grinders are powered by electricity and are light enough in weight to be manually operated.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	19	77	\$1, 374, 959	30 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 019, 194	( <sup>1</sup> )	( <sup>2</sup> )
1937.....	1, 374, 959	( <sup>1</sup> )	( <sup>2</sup> )

<sup>1</sup> No comparable data available.

<sup>2</sup> Probably large.

6. *Industrial concentration and tariff policy.*—Specialization, standardization, economies of large-scale production probably account for the concentration. Imports are nil or negligible. These products are an American specialty. Reduction or removal of the duty would have little effect on the import-domestic price situation.

## PORTABLE PNEUMATIC GRINDERS

1. *Description and use.*—Portable pneumatic grinders are operated with compressed air. They are used for various types of grinding.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	1 85	\$1, 001, 585	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 15 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$486,477	(1)	(1)
1937.....	1,091,585	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Specialization, some side-line production and size of market account for the concentration. Since these machines are American specialties, imports are probably nil. Reduction or removal of the duty would not affect the import-domestic price situation.

#### PORTABLE PNEUMATIC DRILLS AND HAMMERS

1. *Description and use*.—Portable pneumatic drills and hammers are operated by compressed air. They are used for drilling rock and concrete, and for riveting and calking.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 to 10 <sup>1</sup> .....	<sup>1</sup> 6-10	<sup>1</sup> 90-96	\$6,521,071	30 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above products.

3. *Recent tariff history*.—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports <sup>2</sup>
1935.....	\$3,363,280	(1)	\$703,063
1937.....	6,521,071	(1)	1,355,698

<sup>1</sup> No comparable data available.

<sup>2</sup> All pneumatic tools.

6. *Industrial concentration and tariff policy*.—Specialization and technical skill account for the concentration. These products are American specialties of intricate and precise construction. Reduction or removal of the duty would have very little, if any, effect on the import-domestic price situation.

## FLEXIBLE SHAFT MACHINES

1. *Description and use.*—Flexible shaft machines include numerous types of portable power equipment, such as hair-clippers, grinders, circular files, and sanding discs.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5.....	5	90	\$547, 565	35 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent. Act of 1922: 30 percent. Act of 1930: 35 percent<sup>2</sup> or 30 percent,<sup>3</sup> or 27½ percent. Present duty: 25 percent.<sup>4</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$477, 860	(1)	(1)
1937.....	547, 565	(1)	(1)

<sup>1</sup> No comparable data available but exports are large.

6. *Industrial concentration and tariff policy.*—Specialization, and technical skill account for the concentration. These machines are mostly American specialties. A substantial reduction of the duty would have very little effect on the import-domestic price situation.

## SHEARS AND PUNCH PRESSES

1. *Description and use.*—Shears include power types (alligator, rotary, and combination punch and shear) and straight shears. Also included here are punch presses.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 to 17 <sup>1</sup> .....	9-17	75-95	\$5, 673, 158	40 percent.

<sup>1</sup> Variation in companies, plants, and concentration for composite items.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent and 40 percent.<sup>5</sup> Present duty: 30 percent and 40 percent.

<sup>2</sup> If containing an essential electrical element.

<sup>3</sup> If using a tool to work on metal.

<sup>4</sup> United Kingdom trade agreement, effective January 1, 1939.

<sup>5</sup> Duty on punches, shears, and bar cutters for fabricating steel shapes.

4. *Average ad valorem equivalent.*—None.  
 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	<sup>1</sup> \$1,366,322	\$3,823	( <sup>2</sup> )
1937.....	5,673,158	41,203	( <sup>2</sup> )

<sup>1</sup> Punches, shears, and bar cutters for steel shapes only.

<sup>2</sup> Punch presses not included.

<sup>3</sup> No comparable data.

6. *Industrial concentration and tariff policy.*—Specialization and engineering skill account largely for the concentration. A substantial reduction of the duty would probably increase moderately imports of certain types and would lower prices for them. Imports of other types, such as rotary and flying shears, would probably not be affected.

#### THREADING MACHINES

1. *Description and use.*—Threading machines include die, rolling; milling; tapping; pipe cutting and threading, single and multiple head types.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 to 11 <sup>1</sup> .....	<sup>1</sup> 3-11	<sup>1</sup> 85-100	<sup>2</sup> \$4,000,000	30 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration among the types listed above.

<sup>2</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )
1937.....	<sup>3</sup> \$4,000,000	( <sup>1</sup> )	( <sup>2</sup> )

<sup>1</sup> Not available.

<sup>2</sup> Not available, but large.

<sup>3</sup> Estimated.

6. *Industrial concentration and tariff policy.*—Specialization by a few of the threading machine builders (approximately 30) accounts largely for the concentration. Basic patents have expired. A substantial reduction of the duty would probably increase imports only moderately and would lower prices slightly.

## MACHINE TOOL ACCESSORIES

1. *Description and use.*—Machine-tool accessories include drill, lathe, and magnetic chucks; vises; lathe and drilling; boring and milling-machine attachments; and semifinished special attachments.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 to 21 <sup>1</sup> .....	<sup>1</sup> 6-26	<sup>1</sup> 77-100	\$9,965,631	30 percent.

<sup>1</sup> The ranges cited indicate variation in companies, plants, and concentration for the above classes.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	<sup>1</sup> \$5,676,577	(2)	(2)
1937.....	9,965,631	(2)	(2)

<sup>1</sup> Not strictly comparable with 1937.

<sup>2</sup> Probably negligible.

6. *Industrial concentration and tariff policy.*—Specialization, experience, and quality of product are important factors in an explanation of the concentration. These products are mainly American specialties made to fit American-made machines. A substantial reduction of the duty would have little or no effect on imports.

## GEAR CUTTERS (OTHER THAN HOBBING)

1. *Description and use.*—Gear cutters are the actual cutting tools which are used in gear-cutting machines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	11	92	\$2,317,867	50 and 60 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent; 60 percent if containing specified alloys. Act of 1930: 50 percent; 60 percent if containing specified alloys. Present duty: 50 percent; 60 percent if containing specified alloys.



4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(2)
1937.....	\$2, 317, 867	(2)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not separately reported, but small.

6. *Industrial concentration and tariff policy.*—Production by a few large manufacturers accounts largely for the concentration. Removal of the duty would probably have only a moderate effect on the import-domestic price situation.

#### CUTTING TOOLS

1. *Description and use.*—Cutting tools for lathe, planer, and shaper tools, both carbon and high-speed steel and tungsten-carbide tipped; also tungsten-carbide milling cutters. It does not include high-speed steel milling cutters the production of which was valued at \$9,000,000 in 1937.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12 to 16 <sup>1</sup> .....	<sup>1</sup> 12-16	<sup>1</sup> 84-88	\$2, 168, 703	50 and 60 percent.

<sup>1</sup> Range cited indicates variation in companies, plants, and concentration for the above products.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent; 60 percent if containing specified alloys. Act of 1930: 50 percent; 60 percent if containing specified alloys. Present duty: 50 percent; 60 percent if containing specified alloys.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(2)	(2)
1937.....	\$2, 168, 073	(2)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not separately reported, but probably small.

6. *Industrial concentration and tariff policy.*—Production by a few large manufacturers accounts largely for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

## THREADING TOOLS

1. *Description and use.*

Threading tools include carbon, high speed and self-opening dies, collapsible and noncollapsible taps, tap and die chasers, and pipe stock with dies.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 to 28 <sup>1</sup> .....	13-28	182-100	\$8,300,000	50 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above 8 classes.

3. *Recent tariff history.*—Act of 1913: 20 percent. Act of 1922: 40 percent.<sup>6</sup> Act of 1930: 50 percent.<sup>6</sup> Present duty: 50 percent.<sup>6</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*

Year	Domestic production	Imports	Exports
1935.....	\$5,200,000	Negligible...	(1)
1937.....	8,300,000	do.....	(1)

<sup>1</sup> Not reported separately, probably about \$100,000 annually.

6. *Industrial concentration and tariff policy.*—Specialization in the manufacture of metal-cutting tools accounts largely for the concentration. There is little or no import trade partly because of varying thread standards used in different countries. A substantial reduction of the duty would tend to have only a minor effect on imports and prices.

## PRECISION MEASURING TOOLS (MICROMETER AND VERNIER)

1. *Description and use.*—

Tools of this type include primarily certain kinds of calipers and gages for accurate measuring.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	11	97	\$1,581,165	45 percent.

<sup>6</sup> If containing specified alloys, 60 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 45 percent ad valorem. Present duty: 45 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 182, 576	(1)	(1)
1937.....	1, 581, 165	(1)	(1)

<sup>1</sup> Not separately reported, probably small.

6. *Industrial concentration and tariff policy.*—Some specialization, production by a few large manufacturers, and limited markets account largely for the concentration. Imports consist of high-grade products. A substantial reduction of the duty would probably increase imports moderately and would lower prices slightly.

#### COUNTERBORES

1. *Description and use.*—Counterbores are small cutting tools which are used to make recesses for imbedding heads of screws, bolts, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
28.....	28	86	\$1, 058, 200	50 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem.<sup>7</sup> Act of 1930: 50 percent ad valorem.<sup>7</sup> Present duty: 50 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$507, 095	(1)	(1)
1937.....	1, 058, 200	(1)	(1)

<sup>1</sup> Imports small; exports probably negligible.

6. *Industrial concentration and tariff policy.*—Production of a few large companies manufacturing several kinds of tools account for the concentration. Marketing facilities for a full line tend to confine this product primarily to domestic trade. Removal of the duty would have little or no effect on the import-domestic price situation.

<sup>7</sup> If containing certain alloys, 60 percent.

## GROUP K: ELECTRICAL MACHINERY, EQUIPMENT, AND RELATED PRODUCTS

### ELECTRIC GENERATORS AND CONVERTERS

1. *Description and use.*—Electric generators and converters are rotating machines for producing electricity, ranging from the small machines carried on automobiles to large machines used in power stations, driven by steam turbines or water wheels. Motor-generator sets and dynamotors, amounting to \$5,523,605 in 1937, are not included.

#### 2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8 to 47 <sup>1</sup> .....	19-51	175-100	\$83,311,482	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration in the various types included.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>1</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$40,976,000	\$16,437	\$1,898,187
1937.....	83,311,482	2,215	4,987,090

6. *Industrial concentration and tariff policy.*—Specialization, technical skill, and economies of large-scale production account, largely, for the concentration. Differences in standards, contractual selling, and some international agreements partially restrict imports. Removal of the duty would probably have only a moderate effect on the import-domestic price situation.

### TRANSFORMERS

1. *Description and use.*—Included are the following: Distribution ( $\frac{1}{2}$  to 500 kv.=a.), power (501 kv.=a. and over), and miscellaneous transformers; and other types of related apparatus, such as reactors and boosters.

<sup>1</sup> United Kingdom Trade Agreement, effective January 1, 1939.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12 to 28 <sup>1</sup> -----	<sup>1</sup> 13-30	<sup>1</sup> 90-96	\$77, 137, 994	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>2</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935-----	\$25, 075, 000	\$646	\$717, 648
1937-----	77, 137, 994	60, 913	1, 507, 987

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, technical skill, and contractual selling account, largely, for the concentration. Variations in standards and specifications are an obstacle to imports. Removal of the duty would probably have only a moderate effect on the import-domestic price situation.

## ELECTRICAL CIRCUIT BREAKERS (OIL AND AIR)

1. *Description and use.*—Electrical circuit breakers are switches used to open and close electric circuits, some of them being so constructed as to break the circuit when the current exceeds a certain value. Included are air, and outdoor and indoor oil circuit breakers.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5 to 10 <sup>1</sup> -----	<sup>1</sup> 8-12	<sup>1</sup> 90-97	\$18, 161, 862	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

<sup>2</sup> United Kingdom Trade Agreement, effective January 1, 1939.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$7,042,000	(1)	\$954,043
1937.....	18,161,862	(1)	1,491,612

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, technical skill, contractual selling along with related items account largely for the concentration. Removal of the duty would probably have only a slight effect on the import-domestic price situation.

## ELECTRIC-CONTROL EQUIPMENT (RELAYS, SWITCHBOARDS, LIGHTNING ARRESTERS)

1. *Description and use.*—Electric-control equipment includes relays and regulators (excluding industrial motor control and telephone), power switchboards and parts, and lightning arresters (except radio and telephone).

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 to 31 <sup>1</sup> .....	19-35	190-99	\$29,235,295	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent and 40 percent ad valorem, depending on kind. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$12,543,330	(1)	\$819,230
1937.....	29,235,295	(1)	1,199,124

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, technical skill, and contractual selling account largely for the concentration. Large unit installations which include these products along with many others are an obstacle to imports. Removal of the duty would have little effect on the import-domestic price situation.



## LINK AND RENEWABLE FUSES AND CUT-OUTS

1. *Description and use.*—Fuses are short lengths of easily fusible wire inserted in electric circuits. The renewable type (250–600 volts) are used by large commercial and industrial establishments. Cut-outs are the porcelain bases that hold the fuses.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11 to 14 <sup>1</sup> .....	14	1 78-87	\$7, 807, 450	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$4, 777, 271	(1)	(1)
1937.....	7, 807, 450	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Production by the large manufacturers of electrical equipment, marketing facilities, and size of market account largely for the concentration. Removal of the duty on these types of fuses would have only a minor effect on the import-domestic price situation.

## WATT-HOUR METERS (ALTERNATING CURRENT)

1. *Description and use.*—Watt-hour meters are used by electric-power companies to measure output, consumption, and sales to customers.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4.....	5	100	\$21, 249, 268	50 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 45 percent plus specific duties depending on value and number of jewels. Act of 1930: 65 percent, specific duties from 55 cents to

\$4.50, and 25 cents per jewel. Present duty: 32½ percent plus specific duties from 27½ cents to \$2.25 each, plus 12½ cents per jewel.<sup>3</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$11,832,835	(1)	(1)
1937.....	21,249,268	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized large-scale production, contractual selling, and patents probably account for the concentration. The recent reduction of the duty is likely to have very little effect on the import-domestic price situation. Removal of the duty would probably increase imports moderately and would lower prices slightly.

#### MINIATURE ELECTRIC METERS (3½ INCH AND UNDER)

1. *Description and use.*—Miniature electric meters are used for automobile testing and other work not requiring high accuracy. Meters installed on motor vehicles are not included.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	1 85	\$1,958,000	57 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 45 percent plus specific duties depending on value and number of jewels. Act of 1930: 65 percent plus specific duties from 55 cents to \$4.50, plus 25 cents per jewel. Present duty: 32½ percent plus specific duties from 27½ cents to \$2.25, plus 12½ cents per jewel.<sup>3</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1,751,000	(1)	(1)
1937.....	1,958,000	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, and limited market account largely for the concentration. The recent reduction of the duty is likely to have only a moderate effect on the import-domestic price situation.

<sup>3</sup> Swiss Trade Agreement, effective February 15, 1936.

## INSTRUMENT AND METER TRANSFORMERS

1. *Description and use.*—Instrument and meter transformers are widely used, principally for the measurement of currents and voltages in power mains too great to be passed directly through meters.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
16.....	17	<sup>1</sup> 85	\$5, 217, 745	35 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>4</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2, 090, 000	( <sup>1</sup> )	\$148, 951
1937.....	5, 217, 745	( <sup>1</sup> )	121, 603

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale by the large manufacturers of meters, contractual selling, and limited market account largely for the concentration. Removal of the duty would have only a minor effect on the import-domestic price situation.

## INSULATED WIRE

1. *Description and use.*—The insulated wire under review includes three important types: (1) Asbestos insulated, (2) paper insulated, and (3) rubber-insulated telephone wire.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12 to 16 <sup>1</sup> .....	<sup>1</sup> 17-18	<sup>1</sup> 81-90	\$49, 512, 082	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 35 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

<sup>4</sup> United Kingdom Trade Agreement, effective January 1, 1939.

4. *Average ad valorem equivalent.*—None.  
 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$15,780,971	(1)	(2)
1937.....	49,512,082	(1)	(2)

<sup>1</sup> Not available, probably small.

<sup>2</sup> Not available, probably substantial.

6. *Industrial concentration and tariff policy.*—Specialization and production by a few large companies which make related products account for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

#### ELECTRICAL APPLIANCE AND EXTENSION CORDS

1. *Description and use.*—Appliance and extension cords are insulated wire with special end attachments to connect electrical appliances with the usual building outlets.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
17.....	18	88	\$4,285,407	35 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.  
 5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(2)
1937.....	\$4,285,407	(1)	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not separately reported, but small.

6. *Industrial concentration and tariff policy.*—Some specialization and side-line production by the large manufacturers of various types of related electrical equipment probably account for the concentration. Standards for electrical equipment vary in different countries. Full-line marketing facilities are important. Removal of the duty would probably have only a very moderate effect on the import-domestic price situation.

## BRASS SHELL SOCKETS

1. *Description and use.*—Brass sockets are the shells into which electric lamps are inserted.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	18	76	\$4, 930, 037	35 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 543, 000	(1)	(1)
1937.....	4, 930, 037	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Some specialization production by a few large manufacturers of electrical equipment, and economies of large-scale production account for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

## FLEXIBLE METAL CONDUIT

1. *Description and use.*—Flexible metal conduit is made of interlocking strips of galvanized steel. It is used for enclosing insulated copper wire which transmits electricity within buildings.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9.....	9	93	\$1, 881, 000	30 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$249,000	\$39,000	( <sup>2</sup> )
1937.....	1,881,000	49,000	( <sup>2</sup> )

<sup>1</sup> Flexible metal tubing of all types.<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization and economies of large-scale production probably account for the concentration. Imports consist mainly of gas tubing. A substantial reduction of the duty would probably increase imports moderately and would lower prices slightly.

## ELECTRIC MOTORS (FRACTIONAL HORSEPOWER)

1. *Description and use.*—Fractional-horsepower motors range from  $\frac{1}{20}$  to 1 horsepower. Included here are universal, split phase, polyphase, and some miscellaneous types.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
15 to 33 <sup>1</sup> .....	<sup>1</sup> 16-35	<sup>1</sup> 76-92	\$37,940,991	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>5</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$24,114,473	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	37,940,991	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Some specialized production by a few large manufacturers of electrical equipment, and establishment of brands account largely for the concentration. Removal of the duty would have only a minor effect on the import-domestic price situation.

<sup>5</sup> United Kingdom trade agreement, effective January 1, 1939.



## ELECTRIC MOTORS (1 TO 200 HORSEPOWER, DIRECT CURRENT)

1. *Description and use.*—Electric motors of this type are required when the source of electricity is direct rather than alternating current. The sizes included are those from 1 to 200 horsepower.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
40.....	43	79	\$13, 227, 847	35 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>6</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$6, 306, 000	(1)	(1)
1937.....	13, 227, 847	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a moderate scale, production by a few large manufacturers of electrical equipment, and establishment of brands account largely for the concentration. Imports are probably influenced by informal agreements among producers in various countries. Removal of the duty would probably have only a minor effect on the import-domestic price situation.

## POLYPHASE INDUCTION MOTORS (ALTERNATING CURRENT; OVER 200 HORSEPOWER)

1. *Description and use.*—Polyphase induction motors are used where polyphase alternating current is available. They are the most widely used of the various types of electric motors.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	11	93	\$2, 941, 722	35 percent.

<sup>6</sup> United Kingdom trade agreement, effective January 1, 1939.

3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>7</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$1,439,978	(1)	(1)
1937.....	2,941,722	(1)	(1)

<sup>1</sup>Not available.

6. *Industrial concentration and tariff policy*.—Specialized production on a large scale, production by large manufacturers of electrical equipment, and establishment of brands account largely for the concentration. Informal agreements among producers in various countries probably limit imports. A substantial reduction of the duty would have only a minor effect on the import-domestic price situation.

#### ELECTRIC MOTORS (OVER 200 HORSEPOWER; SYNCHRONOUS)

1. *Description and use*.—Electric motors of the synchronous type are being used to an increasing extent because of certain characteristics adapted to various purposes where alternating current is available.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	8	190	\$3,307,087	35 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>7</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$3,307,087	(1)	(1)

<sup>1</sup> Not available.

<sup>7</sup> United Kingdom trade agreement, effective January 1, 1939.

6. *Industrial concentration and tariff policy.*—Specialized production, technical skill, and size of market probably account for the concentration. Imports are probably influenced by informal agreements among producers in various countries. Removal of the duty would probably have only a minor effect on the import-domestic price situation.

## ELECTRIC MOTOR CONTROL APPARATUS

1. *Description and use.*—Electric motor control apparatus is used for starting, stopping, and regulating the speed of electric motors. Included here are industrial magnetic types for direct-current motors and industrial manual types for alternating-current motors.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14 and 18 <sup>1</sup> -----	{ 16 21	{ 85 95	\$9,584,911	35 percent.

<sup>1</sup> Variation in companies, plants, and concentration for the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935-----	\$5,238,000	( <sup>1</sup> )	( <sup>1</sup> )
1937-----	9,584,911	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Some specialization and production by a few large manufacturers of electrical equipment account largely for the concentration. A substantial reduction of the duty would probably increase imports moderately and would lower prices slightly. Imports are now very small.

## AUTOMOTIVE STARTER-MOTORS

1. *Description and use.*—Automotive starter-motors are small electric types, operated by the automobile storage battery, which are employed to turn over the engine in starting.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6-----	7	190	\$20,540,118	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 30 percent ad valorem. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$20, 540, 118	\$2, 120	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Specialization by one large company and production by the automobile companies and their affiliates account largely for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

#### IGNITION EQUIPMENT FOR INTERNAL COMBUSTION ENGINES

1. *Description and use*.—Ignition equipment for internal combustion engines includes spark plugs, ignition coils, distributors, and magnetos.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7-30 <sup>1</sup> .....	<sup>1</sup> 7-30	<sup>1</sup> 80-90	\$58, 200, 583	25 percent. <sup>2</sup>

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above items.

<sup>2</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 20 percent. Act of 1922: 30 or 40 percent. Act of 1930: Free, 25, 30, 35 percent ad valorem, depending on use. Present duty: Free, 25, 30, 35 percent ad valorem, depending on use.<sup>8</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$40, 527, 691	(1)	\$2, 803, 259
1937.....	58, 200, 583	(1)	3, 141, 858

<sup>1</sup> No comparable data available.

6. *Industrial concentration and tariff policy*.—Specialized production on a large scale, contractual selling, and establishment of brands account largely for the concentration. A substantial reduction of the duty would have little or no effect on the import-domestic price situation.

<sup>8</sup> The 35-percent rate was reduced to 25 percent by the United Kingdom trade agreement, effective January 1, 1939.

## WET PRIMARY BATTERIES

1. *Description and use.*—Wet primary batteries are used for supplying a small current over a long period in places not easily supplied from power systems, such as for railroad signaling, and isolated signaling purposes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	99	\$3, 102, 318	35 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$3, 102, 318	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production and limited market probably account for the concentration. A substantial reduction of the duty would have little or no effect on the import-domestic price situation.

## DRY BATTERIES

1. *Description and use.*—Dry batteries include the 6-inch, 1½-volt type and all other such as those used for flashlights, small telephone systems, bell ringing, and in certain types of radio sets.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10 and 14.....	{ 11 17 }	{ 80 91 }	\$20, 679, 878	35 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	\$15,307,154	\$10,319	\$2,541,993
1937.....	20,679,878	1,713	3,552,931

<sup>1</sup> A few minor items omitted.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, technical skill, and establishment of brands account largely for the concentration. A substantial reduction of the duty would increase imports primarily of the smaller, cheaper types and would lower their prices slightly.

## FLASHLIGHT CASES

1. *Description and use.*—Flashlight cases include all types of cases used to enclose the batteries of the various sizes of flashlights.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	1 90	\$5,772,351.	35 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,571,000	(1)	\$696,364
1937.....	5,772,351	\$49,692	918,320

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialization and marketing facilities account largely for the concentration. Imports consist mostly of low-priced, small cases. A substantial reduction of the duty would increase imports, especially of the cheaper grades, and would lower prices slightly.

## INCANDESCENT FILAMENT LAMPS (SMALL TUNGSTEN)

1. *Description and use.*—Small electric lamps are designed to operate on extremely low voltages. They consist mainly of lamps for automobiles, flashlights, and Christmas trees.



2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 to 15 <sup>1</sup> .....	<sup>1</sup> 12-18	<sup>1</sup> 90-94	\$14, 783, 000	2) percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the types included.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 20 percent ad valorem. Act of 1930: 20 percent ad valorem. Present duty: 20 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$10, 954, 000	\$432, 000	\$228, 000
1937.....	12, 171, 000	538, 000	449, 000

6. *Industrial concentration and tariff policy.*—Since two companies produce nearly all the light bulbs, one a patent licensee of the other, concentration also appears in the production of lamps. Domestic production consists largely of automobile lamps (75 percent); imports are mainly Christmas-tree and flashlight lamps; exports consist of all types. Imported lamps are cheaper and probably are inferior. Reduction or removal of the duty would have only a moderate effect on imports and domestic prices.

## INCANDESCENT FILAMENT LAMPS (LARGE TUNGSTEN)

1. *Description and use.*—Large electric lamps (110 to 120 volts and 7½ to 1,500 watts) are practically all made with tungsten filaments. They are used for general lighting in homes, buildings, etc.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
15.....	24	<sup>1</sup> 90	\$59, 137, 000	20 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 20 percent ad valorem. Act of 1930: 20 percent ad valorem. Present duty: 20 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$50,496,000	\$544,000	\$740,000
1937.....	59,137,000	373,000	1,059,000

6. *Industrial concentration and tariff policy.*—Since two companies produce nearly all the light bulbs, one a patent licensee of the other, concentration also appears in the production of lamps. Imported lamps are cheaper and probably are inferior. Reduction or removal of the duty would have no appreciable effect on imports and domestic prices.

## VAPOR LAMPS

1. *Description and use.*—Vapor lamps include types such as mercury vapor, sodium vapor, and neon vapor. They are used principally in industrial lighting, and highway and other outdoor lighting.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	15	1 95	\$3,587,798	20 percent.

<sup>1</sup> 2 companies account for about 90 percent.

3. *Recent tariff history.*—Act of 1913: 30 percent ad valorem. Act of 1922: 20 percent ad valorem. Act of 1930: 20 percent ad valorem. Present duty: 20 percent ad valorem.

4. *Average ad valorem equivalent.*—None.5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,071,511	\$6,074	( <sup>1</sup> )
1937.....	3,587,798	7,621	( <sup>1</sup> )

<sup>1</sup> Not reported separately, but known to be negligible.

6. *Industrial concentration and tariff policy.*—Patent control and licensing agreements account for the concentration in production. Imports are negligible and consist largely of small neon vapor lamps and other types not ordinarily produced in the United States. Reduction or removal of the duty would have very little effect, if any, on imports and domestic prices.

## CARBON AND GRAPHITE ELECTRODES

1. *Description and use.*—Carbon and graphite electrodes are types of electrical equipment. They are used in electrolytic work, such as the manufacture of caustic soda and chlorine.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5.....	7	1 99	* \$8, 000, 000	30 percent.

<sup>1</sup> 1 company accounts for about 90 percent.

<sup>2</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 45 percent ad valorem. Act of 1930: 45 percent ad valorem. Present duty: 30 percent ad valorem.<sup>9</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	\$706	\$1, 895, 752
1937.....	* \$8, 000, 000	None.	3, 443, 705

<sup>1</sup> Not available.

<sup>2</sup> Estimated and excludes large production of an aluminum company for its use.

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, availability of cheap power, and financial integration largely account for the concentration. A substantial reduction of the duty would have little effect on the importation of graphite electrodes, and would probably increase only moderately imports of carbon electrodes.

## CARBON AND GRAPHITE ELECTRODES LIGHTING CARBONS

1. *Description and use.*—Lighting carbons are made of petroleum coke, lampblack, and retort carbon. They are used in moving-picture projectors, searchlights, and therapeutic lamps.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
1 <sup>1</sup> .....	1 2	1 100	1 \$2, 500, 000	30 and 40 percent.

<sup>1</sup> Estimated.

<sup>9</sup> French trade agreement, effective June 15, 1936.

3. *Recent tariff history.*—Act of 1913: 15 cents per 100 feet and 30 percent ad valorem. Act of 1922: 45 percent ad valorem. Act of 1930: 45 and 60 percent ad valorem, according to size. Present duty: 30 and 40 percent ad valorem, according to size.<sup>10</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....		\$24, 609	(1)
1937.....	<sup>2</sup> \$2, 500, 000	16, 375	\$287, 823

<sup>1</sup> Not available.

<sup>2</sup> Estimated.

6. *Industrial concentration and tariff policy.*—Specialization, involving continuous and extensive research, and financial integration account for the concentration of production. The American product is of better quality than foreign products. A substantial reduction in the duty would probably affect imports and domestic prices appreciably.

#### X-RAY APPARATUS AND TUBES

1. *Description and use.*—X-ray apparatus provides and controls the type of electric power required for X-ray tubes; the X-ray tubes included are those for general medical purposes, other than rectifying.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 and 12.....	10 and 12	85 and 88	\$10, 149, 541	17½ percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 17½ percent ad valorem.<sup>11</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	(1)	\$198, 000	(1)
1937.....	\$10, 149, 541	185, 000	<sup>2</sup> \$1, 660, 804

<sup>1</sup> Not available.

<sup>2</sup> Includes all X-ray tubes.

<sup>10</sup> French trade agreement, effective June 15, 1936.

<sup>11</sup> Netherlands Trade Agreement, effective February 1, 1936.

6. *Industrial concentration and tariff policy.*—Specialized production, technical skill and research, service facilities, and size of market account largely for the concentration. The former principal importer now makes tubes. A large Dutch electrical firm has a branch plant in the United States. The recent reduction of the duty is likely to increase imports and to lower prices slightly.

## ELECTRIC FURNACES AND HEATERS

1. *Description and use.*—Electric furnaces and heaters are used for industrial purposes requiring high temperatures. They include resistance types, strip, space, and ring heaters, and arc furnaces.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13 to 21 <sup>1</sup> .....	<sup>1</sup> 13-21	<sup>1</sup> 76-93	\$5, 100, 269	25 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the kinds above enumerated.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>12</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3, 436, 676	\$37, 375	\$398, 195
1937.....	5, 100, 269	1, 245	835, 698

6. *Industrial concentration and tariff policy.*—Specialization, technical skill, and contractual production account largely for the concentration. Removal of the duty would probably affect only very moderately the import-domestic price situation with regard to the more standardized types of equipment.

## MOTOR-DRIVEN WELDING APPARATUS, DIRECT CURRENT

1. *Description and use.*—Motor-driven welding apparatus is used in arc welding. Such apparatus supplies direct current from a generator driven by motor. Included also are the necessary control equipment, cables, and electrodes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
23.....	24	79	\$5, 902, 202	35 percent.

<sup>12</sup> United Kingdom Trade Agreement, effective January 1, 1939.

3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>13</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$3,308,000	(1)	(1)
1937.....	5,902,202	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Specialization, and limited market account largely for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

#### ELECTRIC STORAGE WATER HEATERS

1. *Description and use*.—Electric storage water heaters are used for maintaining a supply of hot water for domestic and other purposes.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
15.....	18	79	\$5,391,785	35 percent.

3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>13</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$2,862,000	(1)	(1)
1937.....	5,391,785	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Specialization, some side line production by the large manufacturers of electrical equipment, and establishment of brands account largely for the concentration. Removal of the duty would have only a very moderate effect on the import-domestic price situation.

#### ELECTRICAL HOUSEHOLD EQUIPMENT

1. *Description and use*.—Electrical household equipment includes here the following items: Standard automatic flatirons, under 5 pounds; automatic toasters; mixers and whippers.

<sup>13</sup> United Kingdom trade agreement, effective January 1, 1939.



2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
16.....	16	85	\$14,917,206	35 and 40 percent.

3. *Recent tariff history.*—Act of 1913: 20 to 45 percent, depending on tariff classification. Act of 1922: 30 or 50 percent, depending on tariff classification. Act of 1930: Mainly 35 and 40 percent, depending on tariff classification. Present duty: Mainly 35 and 40 percent, depending on tariff classification.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	\$14,917,206	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, production by large manufacturers of a full line of similar equipment, and establishment of brands account largely for the concentration. Imports are relatively small and consist mostly of standardized articles. A substantial reduction of the duty would probably increase imports moderately and lower prices slightly on the standardized types.

## ELECTRIC WRINGERS, DRIERS, AND EXTRACTORS

1. *Description and use.*—Electric wringers, driers, and extractors are household laundry devices used in drying clothes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	10	<sup>1</sup> 90	\$3,673,199	35 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,482,000	None	( <sup>1</sup> )
1937.....	3,673,199	None	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, production by large manufacturers of electric equipment, and contractual selling to washing machine manufacturers account for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

## HOUSEHOLD ELECTRIC RANGES

1. *Description and use.*—Household electric ranges are the type used in domestic kitchens, the heating furnished by electric resistance units.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	1 90	\$23, 742, 816	25 percent. <sup>2</sup>

<sup>1</sup> Estimated.

<sup>2</sup> First Canadian trade agreement, effective Jan. 1, 1936.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 17½ percent ad valorem.<sup>14</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$13, 620, 329	(1)	\$269, 053
1937.....	23, 742, 816	\$224	399, 939

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Production by a few large manufacturers of electrical equipment, establishment of brands, and some patents account largely for the concentration. Removal of the duty would probably have only a very moderate effect on the import-domestic price situation.

## SEWING MACHINES

1. *Description and use.*—Sewing machines include the household types, a great variety of high-speed factory machines, and various parts and attachments.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
28 <sup>1</sup> .....	1 29	1 87	\$31, 831, 578	15 percent.

<sup>1</sup> Estimated, all types.

<sup>14</sup> Second Canadian trade agreement, effective January 1, 1939.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: 15 percent ad valorem, value not over \$75; 30 percent, value over \$75. Act of 1930: 15 percent ad valorem, value not over \$75; 30 percent, value over \$75. Present duty: 15 percent, value not over \$75, (bound); 17 percent, value over \$75.<sup>15</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$21,542,000	\$164,341	\$5,977,421
1937.....	31,831,578	202,720	9,098,390

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, marketing and servicing facilities, and establishment of brands account for the concentration. The largest domestic manufacturer has factories abroad. Removal of the duty would have only a minor effect on the import-domestic price situation.

#### ELECTRIC REFRIGERATORS (DOMESTIC USE)

1. *Description and use.*—This title includes electric refrigerators for domestic use of the following capacities: 6 to 10 cubic feet, and 10 cubic feet and over.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14 to 25 <sup>1</sup> .....	<sup>1</sup> 14 to 25	77	\$99,115,941	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies and plants for the above classes.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>15</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$58,969,157	(1)	(1)
1937.....	99,115,941	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, production by the large manufacturers of electric equipment, economies of large-scale production, establishment of brands, marketing and servicing facilities, and patents account for the concentration. Ex-

<sup>15</sup> United Kingdom trade agreement, effective January 1, 1939.

ports are large, imports are practically nil. These products are primarily American specialties. Removal of the duty would have little or no effect on the import-domestic price situation.

## COMMERCIAL REFRIGERATING UNITS

1. *Description and use.*—Commercial refrigerating units include beverage and water coolers, certain display cases, compressors, ice-cream cabinets, evaporators, ice-making machines (10–100 tons per 24 hours capacity), and condensing units for air-conditioning.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11 to 25 <sup>1</sup> .....	<sup>1</sup> 11 to 25	<sup>1</sup> 81 to 99	\$63,640,662	35 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above items.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>16</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$63,640,662	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Technical skill, economies of large-scale production, marketing and servicing facilities, and patents account largely for the concentration. Exports are large, imports practically nil. Removal of the duty would have very little effect, if any, on the import-domestic price situation.

## ELECTRIC RECEIVING SETS

1. *Description and use.*—Electric receiving sets included here are those ranging from \$25 to over \$100 factory value, socket-operated types and automobile sets.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 to 24 <sup>1</sup> .....	<sup>1</sup> 7 to 24	<sup>1</sup> 78 to 90	\$50,232,000	25 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

<sup>16</sup> United Kingdom trade agreement, effective January 1, 1939.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>17</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$30,010,000	(1)	(1)
1937.....	50,232,000	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization and technical skill, economies of large-scale production, and establishment of brands account largely for the concentration. A substantial reduction of the duty would probably increase imports moderately and might lower prices, especially on the higher-priced types. Approximately 90 percent of the domestic output (number of sets) consists of the low-priced types.

#### ELECTRIC RECEIVING TUBES

1. *Description and use.*—Electric receiving tubes included here are the following types: Glass and metal direct-current and alternating-current tubes for replacement, and metal alternating-current tubes for initial installation.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 to 12 <sup>1</sup> .....	19 to 12	133 to 97	\$17,494,103	25 percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration in the above types.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 25 percent ad valorem.<sup>17</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$14,242,439	(1)	(1)
1937.....	17,494,103	(1)	(1)

<sup>1</sup> Not available.

<sup>17</sup> United Kingdom trade agreement, effective January 1, 1939.

6. *Industrial concentration and tariff policy.*—Some specialization, production by the large manufacturers of radios, establishment of brands, and marketing and servicing facilities account for the concentration. Removal of the duty would probably have little or no effect on the import-domestic price situation.

#### MECHANICALLY POWERED PHONOGRAPHS (INCLUDING CABINETS)

1. *Description and use.*—Mechanically powered phonographs are spring operated and consist principally of portable units.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
12.....	12	94	\$7,086,391	30 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,106,644	( <sup>1</sup> )	( <sup>2</sup> )
1937.....	7,086,391	( <sup>1</sup> )	( <sup>2</sup> )

<sup>1</sup> No comparable data available.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production, establishment of brands, and patents account for the concentration. Removal of the duty would increase moderately imports of the cheaper types and would lower prices slightly.

#### TELEPHONE AND TELEGRAPH APPARATUS

1. *Description and use.*—Telephone and telegraph apparatus includes subscribers, central office, and line apparatus and intercommunicating systems.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
31.....	54	190	\$115,882,648	35 percent.

<sup>1</sup> Estimated.



3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 30 or 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 17½ percent ad valorem—telegraph apparatus;<sup>18</sup> 35 percent ad valorem—telephone apparatus.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$43, 584, 201	\$7, 000	\$2, 102, 280
1937.....	115, 882, 648	29, 000	3, 784, 712

6. *Industrial concentration and tariff policy*.—Specialized production of telephone equipment (the main item) by the largest telephone company, and parts supplied largely according to specifications by a few manufacturers for the telegraph companies account for the concentration. Removal of the duty would increase imports very moderately and would lower prices slightly.

#### CALCULATING MACHINES

1. *Description and use*.—Calculating machines include principally machines for multiplying and dividing.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937 Free, ad valorem rate, or equivalent
5.....	5	1 90	\$13, 506, 101	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 35 percent—if electrical; 27½ percent if nonelectrical. Present duty: 25 percent ad valorem.<sup>19</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$9, 092, 686	<sup>1</sup> \$19, 193	\$1, 585, 762
1937.....	13, 506, 101	31, 554	2, 481, 715

<sup>1</sup> Not separately classified prior to Aug. 5, 1935.

6. *Industrial concentration and tariff policy*.—Specialized production, marketing and servicing facilities, establishment of brands, and patents account for the concentration. Imports usually vary according to new features developed abroad. These features are soon dupli-

<sup>18</sup> United Kingdom trade agreement, effective Jan. 1, 1939.

<sup>19</sup> Swedish trade agreement effective August 5, 1935.

cated, or improved, or produced under licenses by domestic companies. A substantial reduction of the duty would have only a minor effect on the import-domestic price situation.

## BILLING AND BOOKKEEPING MACHINES

1. *Description and use.*—Billing and bookkeeping machines include listing-adding-bookkeeping and typewriter-bookkeeping-billing machine combinations.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
5. ....	6	<sup>1</sup> 90	\$15, 569, 475	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935. ....	\$10, 288, 555	( <sup>1</sup> )	( <sup>1</sup> )
1937. ....	15, 569, 475	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, technical skill, marketing and servicing facilities, and patents account for the concentration. These products are primarily American specialties. Exports greatly exceed imports. Removal of the duty would have no effect on the import-domestic price situation.

## OFFICE MACHINES

1. *Description and use.*—Office machines include adding machines; addressing and mailing machines; check-writing, cancelling, and perforating machines; and mimeographing and multigraphing machines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
9 to 18 <sup>1</sup> . ....	<sup>1</sup> 10-18	<sup>1</sup> 77-88	\$24, 639, 480	27½ percent.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and concentration for the above types.

3. *Recent tariff history*.—Act of 1913: 20 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 27½ percent ad valorem. Present duty: 27½ percent ad valorem.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$18,056,421	(1)	(1)
1937.....	24,639,480	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy*.—Specialized production on a large scale, establishment of brands, marketing and servicing facilities, and patents account for the concentration. These products are primarily American specialties. Exports exceed imports. Removal of the duty would have little or no effect on the import-domestic market situation.

#### CASH REGISTERS

1. *Description and use*.—Included are card punching, sorting and tabulating machines, and cash registers.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
28.....	28	1 85	\$43,022,254	25 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history*.—Act of 1913: Free. Act of 1922: 25 percent ad valorem. Act of 1930: 25 percent ad valorem. Present duty: 25 percent ad valorem.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$26,526,994	\$19,148	\$4,660,897
1937.....	43,022,254	2,876	6,134,304

<sup>1</sup> Cash registers and parts only.

6. *Industrial concentration and tariff policy*.—Patents, marketing and servicing facilities, economies of large-scale production, establishment of brands, financial resources and integration account largely for the concentration. Removal of the duty would have little or no effect on the import-domestic price situation.

## TYPEWRITERS, PARTS, AND ATTACHMENTS (NEW AND REBUILT)

1. *Description and use.*—Typewriters include standard and portable types, parts and attachments, and rebuilt models.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 to 15 <sup>1</sup> .....	18-23	91	\$43,499,141	Free.

<sup>1</sup> Ranges cited indicate variation in companies, plants, and companies for the above classes.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$34,914,113	\$41,097	\$12,718,668
1937.....	43,499,141	159,950	14,860,006

6. *Industrial concentration and tariff policy.*—Economies of large-scale production, marketing, and servicing facilities, establishment of brands, some consolidations, and patents account largely for the concentration. Exports greatly exceed imports.

## GROUP L: MISCELLANEOUS PRODUCTS

### HIDE AND EXTRACTED BONE GLUE

1. *Description and use.*—Extracted bone glues are animal glues used principally in the manufacture of fiber and cardboard cartons and boxes. Hide glues which are used in woodworking constitute the bulk of the domestic production.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3 and 14.....	{ 4 16 }	{ 84 100 }	\$12, 493, 337	53 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 1 cent per pound, or 15 or 25 percent, depending on value. Act of 1922: 20 percent, plus 1½ cents, or 20 percent, plus 7 cents per pound, depending on value. Act of 1930: 25 percent, plus 2 cents, or 25 percent, plus 8 cents per pound depending on value. Present duty: 2½ cents per pound, plus 20 percent, valued at less than 40 cents per pound;<sup>1</sup> 8 cents per pound, plus 25 percent, valued at 40 cents or more per pound.

4. *Average ad valorem equivalent.*—1934, 46 percent; 1935, 47 percent; 1936, 54 percent; 1937, 53 percent; 1938, 47 percent; 1939, 49 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	<sup>2</sup> \$6, 843, 078	\$210, 607	\$164, 083
1937.....	12, 493, 337	314, 097	211, 021

<sup>1</sup> Less than 40 cents per pound, that at 40 cents or more negligible.

<sup>2</sup> Estimated.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, some side-line production in connection with the packing business, and financial resources and integration account for the concentration. A substantial reduction of the duty would increase imports considerably and would lower prices appreciably.

<sup>1</sup> Presidential proclamation, effective September 18, 1932.

## CASEIN GLUE

1. *Description and use.*—Casein glue is a water-resistant adhesive used principally in the plywood industry.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
20 <sup>1</sup> .....	22	80	\$1, 072, 395	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 1 cent per pound, or 15 and 25 percent, depending on value. Act of 1922: 25 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$668, 282	\$500	None
1937.....	1, 072, 395	None	Do.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale especially by a subsidiary of a very large national dairy company and size of market account for the concentration. Removal of the duty would probably increase imports moderately and would lower prices appreciably.

## FISH GLUE

1. *Description and use.*—Fish glue is used extensively in photo-engraving; for gummed paper; in the woodworking arts, particularly for alinement and inlay work; and in the household.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
2.....	4	100	\$908, 121	38 percent.

3. *Recent tariff history.*—Act of 1913: 1 cent per pound, or 15 or 25 percent, depending on value. Act of 1922: 20 percent, plus 1½ cents per pound or 7 cents per pound. Act of 1930: 25 percent, plus 2 cents, or 25 percent plus 8 cents per pound. Present duty: 15 percent, plus 1 cent (less than 40 cents per pound value); <sup>2</sup> 25 percent plus 8 cents per pound (valued at 40 cents or more per pound).

<sup>2</sup> French trade agreement effective June 15, 1936.



4. *Average ad valorem equivalent.*—1934, 36 percent; 1935, 36 percent; 1936, 37 percent; 1937, 38 percent; 1938, 33 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$829, 625	\$2, 425	(1)
1937.....	908, 121	2, 618	(1)

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, size of market, and patents during the early development of the product account for the concentration. One of the companies is the world's largest producer. Removal of the duty would probably only have a moderate effect on the import-domestic price situation.

#### VEGETABLE GLUES

1. *Description and use.*—Vegetable glues are low-priced adhesives used principally for sealing paper cartons containing foodstuffs, and in the manufacture of plywood.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
25 <sup>1</sup> .....	130	180	\$8, 621, 874	34 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 1 cent per pound or 15 or 25 percent. Act of 1922: 20 percent, plus 1½ cents (less than 40 cents value), or 25 percent plus 8 cents (40 cents or over). Act of 1930: 25 percent plus 2 cents (less than 40 cents), or 8 cents (40 cents or over). Present duty: 25 percent plus 2 cents (less than 40 cents), or 8 cents (40 cents or over).

4. *Average ad valorem equivalent.*—1934, 39 percent; 1935, 56 percent; 1936, 42 percent; 1937, 34 percent; 1938, 46 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$5, 204, 473	\$84	(1)
1937.....	8, 621, 874	19	(1)

<sup>1</sup> Not reported.

6. *Industrial concentration and tariff policy.*—Some large specialized production, side-line production, and patents account for the concentration. A substantial reduction of the duty would increase moderately imports, especially of tapioca glues, and would lower prices of this type of vegetable glue only slightly.

## CIGARETTES

1. *Description and use.*—Cigarettes include all rolls of tobacco wrapped with paper or with any substance other than tobacco.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
32.....	41	85	\$887,723,312	109 percent.

3. *Recent tariff history.*—Act of 1913: \$4.50 per pound plus 25 percent ad valorem. Act of 1922: \$4.50 per pound plus 25 percent ad valorem. Act of 1930: \$4.50 per pound plus 25 percent ad valorem. Present duty: \$2.25 per pound plus 12½ percent ad valorem.<sup>3</sup>

4. *Average ad valorem equivalent.*—1934, 101 percent; 1935, 106 percent; 1936, 107 percent; 1937, 109 percent; 1938, 110 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$723,249,455	\$17,896	\$7,261,950
1937.....	887,723,312	13,353	11,022,291

<sup>1</sup> Free imports from the Philippines in addition: 1935, \$52,583; 1937, \$5,015.

6. *Industrial concentration and tariff policy.*—Experience, financial resources, and the establishment of brands largely account for the present concentration. The small dutiable imports consist chiefly of higher-priced brands of English and Turkish cigarettes. Removal of the duty would probably affect only slightly the import-domestic price situation.

## PLUG CHEWING TOBACCO

1. *Description and use.*—Plug chewing tobacco is heavily flavored cut plug tobacco.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
18.....	18	92	\$31,726,954	31 percent. <sup>1</sup>

<sup>1</sup> "Manufactures of tobacco, not specifically provided for."

3. *Recent tariff history.*—Act of 1913: 55 cents per pound. Act of 1922: 55 cents per pound. Act of 1930: 55 cents per pound. Present duty: 35 cents per pound.<sup>4</sup>

<sup>3</sup> United Kingdom trade agreement, effective January 1, 1939. Both domestic and imported cigarettes are subject to the internal-revenue tax.

<sup>4</sup> United Kingdom trade agreement, effective January 1, 1939.

4. *Average ad valorem equivalent*.—Not available.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports <sup>1</sup>
1935.....	(2)	(2)	\$597,309
1937.....	\$31,726,954	(2)	842,073

<sup>1</sup> Chewing tobacco, plug, and other.

<sup>2</sup> Not available.

<sup>3</sup> Not reported separately, but negligible.

6. *Industrial concentration and tariff policy*.—A decrease in demand over a period of years partly explains the concentration; other factors are financial resources and the popularity of certain brands. A substantial reduction of the duty would not affect appreciably the import situation.

#### SMOKING TOBACCO

1. *Description and use*.—Smoking tobacco includes the familiar blends of domestic and imported tobacco, usually packaged in tins.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
119.....	126	78	\$117,641,220	31 percent.

3. *Recent tariff history*.—Act of 1913: 55 cents per pound. Act of 1922: 55 cents per pound. Act of 1930: 55 cents per pound. Present duty: 35 cents per pound.<sup>5</sup>

4. *Average ad valorem equivalent*.—1934, 44 percent; 1935, 35 percent; 1936, 30 percent; 1937, 31 percent; 1938, 32 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	(1)	\$146,654	\$649,597
1937.....	\$117,641,220	188,924	479,938

<sup>1</sup> Not available.

<sup>2</sup> "Manufactures of tobacco, not specifically provided for," mostly smoking.

6. *Industrial concentration and tariff policy*.—Capital requirements for large-scale operations and the establishment of brands are important factors in an explanation of the present concentration. Imported brands sell at prices considerably higher than the domestic ones. A substantial reduction of the duty would probably increase imports moderately without affecting appreciably domestic prices.

<sup>5</sup> United Kingdom trade agreement, effective January 1, 1939.

## SNUFF

1. *Description and use.*—Snuff varies in texture and moisture content; it may be plain or sweetened, and scented or flavored by such ingredients as attar of roses, essence of lemon, and tonka beans. It is used primarily for chewing.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	13	99	\$29, 204, 135	43 percent.

3. *Recent tariff history.*—Act of 1913: 55 cents per pound. Act of 1922: 55 cents per pound. Act of 1930: 55 cents per pound. Present duty: 35 cents per pound.<sup>6</sup>

4. *Average ad valorem equivalent.*—1934, 28 percent; 1935, 27 percent; 1936, 33 percent; 1937, 43 percent; 1938, 41 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	\$47, 256	(2)
1937.....	\$29, 204, 135	45, 753	(2)

<sup>1</sup> Not available.

<sup>2</sup> Not reported separately, but negligible.

6. *Industrial concentration and tariff policy.*—The three largest companies acquired the snuff business of the American Tobacco Co. upon its dissolution in 1912. Capital requirements and the establishment of brands are largely responsible for the present concentration. Imported foreign brands supply a limited group of consumers. Reduction or removal of the duty would probably affect imports and prices only moderately.

## SCRAP CHEWING TOBACCO

1. *Description and use.*—Scrap chewing tobacco is used exclusively for chewing.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
64.....	64	87	\$21, 414, 443	31 percent. <sup>1</sup>

<sup>1</sup> "Manufactures of tobacco, not specifically provided for."

<sup>6</sup> United Kingdom trade agreement, effective January 1, 1939.

3. *Recent tariff history*.—Act of 1913: 55 cents per pound. Act of 1922: 55 cents per pound. Act of 1930: 55 cents per pound. Present duty: 35 cents per pound.<sup>7</sup>

4. *Average ad valorem equivalent*.—Not available.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	( <sup>2</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
1937.....	\$21, 414, 443	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not reported separately, but negligible.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy*.—A decrease in demand over a period of years partly explains the concentration; other factors are financial resources and the popularity of certain brands. A substantial reduction of the duty would not affect appreciably the import situation.

#### BRIAR TOBACCO PIPES

1. *Description and use*.—Briar tobacco pipes are a widely used type. The bowls are made of briar wood and the mouthpieces are usually made of hard rubber or other plastic material.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
16.....	17	75	\$7, 094, 415	71 percent.

3. *Recent tariff history*.—Act of 1913: 50 percent ad valorem. Act of 1922: 60 percent ad valorem. Act of 1930: 5 cents each plus 60 percent ad valorem. Present duty: 2½ and 5 cents each plus 40 and 50 percent depending on value.<sup>8</sup>

4. *Average ad valorem equivalent*.—1934, 72 percent; 1935, 73 percent; 1936, 73 percent; 1937, 71 percent; 1938, 72 percent.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports <sup>1</sup>	Exports
1935.....	\$5, 401, 456	\$193, 776	( <sup>2</sup> )
1937.....	7, 094, 415	339, 608	\$96, 550

<sup>1</sup> Principally briar pipes.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy*.—Establishment of brands and financial connections of a few manufacturers with their retail outlets account largely for the concentration. Briar wood is not produced in the United States. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

<sup>7</sup> United Kingdom trade agreement, effective January 1, 1939.

<sup>8</sup> French trade agreement, June 15, 1936; British trade agreement, January 1, 1939.

## CHEWING GUM

1. *Description and use.*—Chewing gum is a confection which is manufactured from chicle, crude gum, sugar, and corn sirup.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
25 <sup>1</sup> -----	1 25	1 85	\$54,633,498	20 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent. Act of 1922: 20 percent. Act of 1930: 20 percent. Present duty: 20 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935-----	\$45,599,719	None	\$915,661
1937-----	54,633,498	None	1,176,524

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, and establishment of brands account for the concentration. This product is an American specialty and American companies have many branch factories in foreign countries. Elimination of the duty would have no effect on the import-domestic price situation.

## INNER SPRING MATTRESSES

1. *Description and use.*—Mattresses with inner spring construction are used for various types of beds. They constitute more than one-half of the total output of mattresses.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
525-----	555	1 90	\$39,433,659	45 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 45 percent ad valorem. Present duty: 45 percent ad valorem.

4. *Average ad valorem equivalent.*—None.



5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$32, 118, 076	(1)	(1)
1937.....	39, 433, 659	(1)	(1)

<sup>1</sup> Imports negligible, exports small.

6. *Industrial concentration and tariff policy.*—Specialization, economies of large-scale production, marketing facilities, and advertising account largely for the concentration. This product is mainly an American specialty. Removal of the duty would probably have little or no effect on the import-domestic price situation.

## BINDER TWINE

1. *Description and use.*—Binder twine is a single ply twine usually made of henequen. Its primary use is in tying bundles of grain in harvesting.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	14	<sup>1</sup> 85	<sup>2</sup> \$8, 581, 676	Free.

<sup>1</sup> Estimated.

<sup>2</sup> Not including 42,809,291 pounds made in penal institutions.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Free. Act of 1930: Free. Present duty: Free.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$6, 629, 537	\$2, 883, 456	\$401, 828
1937.....	8, 581, 676	3, 484, 375	371, 235

<sup>1</sup> Not including 67,354,950 pounds, 1935, and 42,809,291 pounds, 1937, made in penal institutions.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale and production by one of the large manufacturers of a full line of farm implements account for the concentration. Raw material is also imported free of duty.

## PRESS CLOTH OF HUMAN HAIR

1. *Description and use.*—Press cloth of this type is a thick, heavy cloth made of Asiatic human hair. It is used almost entirely in the vegetable-oil industry to hold the seeds from which oil is pressed by means of hydraulic presses.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
4 <sup>1</sup> .....	14	100	1 \$1, 050, 000	57 percent. <sup>2</sup>

<sup>1</sup> Estimated.<sup>2</sup> No imports; estimate based on domestic values.

3. *Recent tariff history.*—Act of 1913: 15 cents per square yard. Act of 1922: 35 percent ad valorem. Act of 1930: 8 cents per pound, plus 40 percent ad valorem. Present duty: 4 cents per pound, plus 30 percent ad valorem.<sup>9</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$750, 000	None	(?)
1937.....	1, 050, 000	None	(?)

<sup>1</sup> Estimated.<sup>2</sup> Not available, but known to be small.

6. *Industrial concentration and tariff policy.*—Experience and limited market account for the concentration. There have been no imports since 1930. A substantial reduction of the duty would probably increase imports and lower prices.

## WAX CRAYONS

1. *Description and use.*—Wax crayons are used principally in schools for art classes.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
13.....	13	87	\$1, 952, 672	65 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 45 cents per gross, plus 25 percent ad valorem. Act of 1930: 50 cents per gross, plus 30 percent ad valorem. Present duty: 50 cents per gross, plus 30 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

<sup>9</sup> United Kingdom trade agreement, effective January 1, 1939.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$1,952,672	(1)	(1)

<sup>1</sup> Not separately shown.

6. *Industrial concentration and tariff policy.*—Specialized production which has continued over a period of years; establishment of brands, and size of market account largely for the concentration. A substantial reduction of the duty would increase imports moderately and would lower prices.

## TOOTHBRUSHES

1. *Description and use.*—Toothbrushes consist of those with handles of cellulose compounds (celluloid, etc.) and those with handles of other materials, such as synthetic resin (bakelite, etc.), bone, and bamboo. Practically all types contain hog bristle.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
17.....	17	88	\$6,341,382	77 percent.

3. *Recent tariff history.*—Act of 1913: 40 and 35 percent ad valorem. Act of 1922: 60 and 45 percent ad valorem. Act of 1930: 2 cents each plus 50 percent (cellulose handles); 1 cent each plus 50 percent (other). Present duty: 2 cents each plus 50 percent (cellulose handles) 1 cent each plus 25 percent (other).<sup>10</sup>

4. *Average ad valorem equivalent.*—1934, 119 percent; 1935, 122 percent; 1936, 119 percent; 1937, 114 percent; 1938, 112 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$6,505,184	\$306,368	\$327,232
1937.....	6,341,382	447,485	518,126

6. *Industrial concentration and tariff policy.*—At least 90 percent of the domestic output is made with handles of cellulose material. One large general chemical company makes most of these handles, as well as large quantities of finished brushes. Production of handles on a large scale, marketing facilities, and establishment of brands account for the concentration. Imports consist mostly of those with handles of cellulose, bone, or bamboo. A substantial reduction of the duties would increase imports moderately and would lower prices slightly.

<sup>10</sup> Trade agreement with the United Kingdom, January 1, 1939.

PHOTOGRAPHIC DRY PLATES AND SLIDES (SENSITIZED, BUT NOT EXPOSED)

1. *Description and use.*—Photographic dry plates are glass sheets coated with a light-sensitive emulsion for exposure in a camera. Photographic slides, coated in the same way, on which are made positive transparencies, are used in a projector or stereopticon.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	1 80	\$876, 756	20 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 45 percent ad valorem. Act of 1930: 45 percent ad valorem. Present duty: 45 percent ad valorem.<sup>11</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$944, 717	\$164, 258	\$205, 495
1937.....	876, 756	162, 024	159, 367

6. *Industrial concentration and tariff policy.*—Specialization and shrinkage of market account largely for the concentration. Cut film is gradually replacing dry plates in professional as well as in amateur work. Removal of the duty would probably have little or no effect on the import-domestic price situation.

SENSITIZED PHOTOGRAPHIC PAPER

1. *Description and use.*—Sensitized photographic paper is paper which has been processed and made sensitive to light or chemicals, and on which the positive is printed from the negative film or plate.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
11.....	11	1 85	\$12, 285, 739	22½ percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 25 percent. Act of 1922: 3 cents per pound and 20 percent ad valorem. Act of 1930: 30 percent. Present duty: 22½ percent.<sup>11</sup>

<sup>11</sup> Belgian trade agreement, effective May 1, 1935.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935 .....	<sup>1</sup> \$13, 653, 722	\$271, 678	\$1, 348, 878
1937 .....	12, 285, 739	360, 488	1, 120, 947

<sup>1</sup> Net strictly comparable.

6. *Industrial concentration and tariff policy.*—Specialization, extensive marketing facilities, and economies of large-scale production account largely for the concentration. Exports consist principally of paper shipped by the largest domestic producer to its distributing houses abroad. Imports are mainly from large foreign companies which have American-affiliated companies. A substantial reduction in the duty would increase imports and would lower prices.

#### PHOTOGRAPHIC FILM (EXCEPT X-RAY)

1. *Description and use.*—Photographic film includes motion-picture film for amateur use (8 mm. and 16 mm.) and for professional use (35 mm.), and cartridge, roll, and cut films for amateur use primarily.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10 .....	19	<sup>1</sup> 90	\$49, 502, 783	22 percent. <sup>1</sup>

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Four-tenths cent per linear foot of standard width of 1½ inches. Act of 1930: Four-tenths cent per foot, standard width; 25 percent ad valorem, less than 1 inch. Present duty: Two-tenths cent per linear foot, standard width; 12½ percent ad valorem, less than 1 inch width.<sup>12</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935 .....	( <sup>1</sup> )	<sup>2</sup> \$1, 424, 675	<sup>2</sup> \$6, 506, 757
1937 .....	\$49, 502, 783	1, 987, 387	7, 271, 348

<sup>1</sup> Not available.

<sup>2</sup> Includes X-ray film.

6. *Industrial concentration and tariff policy.*—Specialized production on a large scale, technical skill, contractual selling, and marketing facilities account largely for the concentration. Removal of the duty would have only a very moderate effect, especially on the narrower widths, with regard to the import-domestic price situation.

<sup>12</sup> Belgian trade agreement, effective May 1, 1935.

## PHOTOGRAPHIC X-RAY FILM

1. *Description and use.*—X-ray film is cut film specially designed for scientific photography. It is used largely by dentists and surgeons and ranges in size from 1 by 1¼ inches to 14 by 36 inches.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	1 90	\$9, 415, 582	12½ percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: Free. Act of 1922: Four-tenths cent per linear foot 1¾ inches wide. Act of 1930: 25 percent ad valorem. Present duty: 12½ percent ad valorem.<sup>13</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$9, 415, 582	\$44, 830	\$790, 577

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Technical skill, specialization, economies of large-scale production, and establishment of brands account largely for the concentration. Imports consist mostly of small sizes; exports of large sizes. Rapid deterioration from heat and moisture is an obstacle to long-distance shipping. The recent reduction of the duty is likely to have only a moderate effect on the import-domestic price situation.

## MOTION-PICTURE PROJECTORS (STANDARD AND SUBSTANDARD GAGES)

1. *Description and use.*—Standard gage projectors are used for the commercial 35-mm. films, the substandard for narrower films, especially as used in amateur photography.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7 and 9.....	{ 7 9 }	{ 82 90 }	\$6, 864, 364	35 percent.

3. *Recent tariff history.*—Act of 1913: 20 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 35 percent ad valorem. Present duty: 35 percent ad valorem.

<sup>13</sup> Belgian trade agreement, effective May 1, 1935.



4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3, 154, 110	(1)	\$478, 149
1937.....	6, 864, 364	(1)	1, 111, 892

<sup>1</sup> Not reported separately, but probably negligible.

6. *Industrial concentration and tariff policy.*—Technical skill, specialization, economies of large-scale production, and establishment of brands account largely for the concentration. A substantial reduction of the duty would probably increase imports moderately, especially of the 16-mm. type, and would lower prices slightly.

#### BASEBALL BATS

1. *Description and use.*—Baseball bats are made principally of ash and hickory woods. Recently more light woods are being used. Good quality bats must be made exactly to size and weight specifications.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	96	\$1, 060, 393	30 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1, 132, 177	(1)	(1)
1937.....	1, 060, 393	(1)	(1)

<sup>1</sup> Not available, but negligible.

6. *Industrial concentration and tariff policy.*—Side-line production by the large manufacturers of athletic goods, financial resources and consolidations, and establishment of brands account largely for the concentration. This product is largely an American specialty. Removal of the duty would probably have only a minor effect on the import-domestic price situation.

## BASEBALLS

1. *Description and use.*—Baseballs are made with rubber or cork centers, which are wound with woolen or other yarn. Covers are of leather, imitation leather, or rubber.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	10	76	\$2,301,004	30 percent.

3. *Recent tariff history.*—Act of 1913: Dutiable according to component material of chief value. Act of 1922: 30 percent. Act of 1930: 30 percent. Present duty: 30 percent.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935.....	\$2,594,784	( <sup>2</sup> )	( <sup>2</sup> )
1937.....	2,301,004	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> Includes playground balls.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production, side-line production by the large manufacturers of athletic goods, and establishment of brands account largely for the concentration. The few imports consist mainly of low-grade balls. A substantial reduction of the duty would increase imports and would lower prices of the cheaper types of balls.

## BASKETBALLS

1. *Description and use.*—All basketballs were formerly made with separate rubber bladders and leather covers. Recently a molded ball has been perfected in which the carcass is shaped, and the leather case molded thereon. The new type is more nearly perfect and better wearing than the old type.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
16.....	17	83	\$859,437	30 percent.

3. *Recent tariff history*.—Act of 1913: Dutiable according to component material of chief value. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 20 percent ad valorem.<sup>14</sup>

4. *Average ad valorem equivalent*.—

5. *Domestic production, imports, and exports*.—None.

Year	Domestic production	Imports	Exports
1935.....	\$646,316	(1)	(1)
1937.....	859,437	(1)	(1)

<sup>1</sup> Not available, but small.

6. *Industrial concentration and tariff policy*.—Side-line production by the large manufacturers of athletic goods, financial resources and consolidations, establishment of brands and patents account largely for the concentration. This product is largely an American specialty. Removal of the duty would have only a slight effect on the import-domestic price situation.

#### TENNIS BALLS

1. *Description and use*.—Tennis balls are hollow rubber balls covered with wool felt. Most types are filled with gas to increase their bounce. Present regulation balls are in chief value of felt.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3.....	3	100	\$1,697,898	30 percent.

3. *Recent tariff history*.—Act of 1913: Dutiable according to component material of chief value. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$1,263,588	\$73,274	(1)
1937.....	1,697,898	29,484	(1)

<sup>1</sup> Not available, but small.

6. *Industrial concentration and tariff policy*.—Side-line production by the large manufacturers of athletic goods and rubber tires, financial resources and consolidations, and establishment of brands account largely for the concentration. Imports are comparable to the domestic product and come mainly from the United Kingdom. Do-

<sup>14</sup> Trade agreement with the United Kingdom, January 1, 1939.

mestic producers object to the size of imports and to the lower selling price. A substantial reduction of the duty would increase imports moderately and would lower prices.

## GOLF BALLS

1. *Description and use.*—Golf balls are made of rubber thread with either a solid rubber or liquid center; they have balata covers. The expensive balls have liquid centers and are wound very tightly.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
14.....	14	80	\$4,387,919	30 percent.

3. *Recent tariff history.*—Act of 1913: Dutiable according to component material of chief value. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 20 percent ad valorem.<sup>15</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$3,974,641	\$90,964	(1)
1937.....	4,387,919	62,071	\$26,096

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—The difficulty of obtaining and storing rubber thread, use of patented machinery for winding the thread, and financial resources account for the concentration. Imports consist of balls which conform to the four retail price groups at which golf balls are commonly sold in the United States, namely, 25, 35, 50, and 75 cents. A substantial reduction in the duty would increase imports moderately and would lower prices.

## GOLF CLUB SHAFTS

1. *Description and use.*—Golf club shafts were formerly made of wood. Steel shafts in recent years have almost completely displaced wooden shafts.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	<sup>1</sup> 78	\$1,716,185	40 and 33½ percent.

<sup>1</sup> Estimated.

<sup>15</sup> Trade agreement with the United Kingdom, January 1, 1939.

3. *Recent tariff history*.—Act of 1913: None. Act of 1922: 40 percent ad valorem (metal shaft); 33⅓ percent (wood). Act of 1930: 40 percent ad valorem (metal shaft); 33⅓ percent (wood). Present duty: 40 percent ad valorem (metal shaft); 33⅓ percent (wood).

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$1,141,837	(1)	(2)
1937.....	1,716,185	(1)	(2)

<sup>1</sup> Negligible.

<sup>2</sup> Not reported separately, but large.

6. *Industrial concentration and tariff policy*.—Technical skill (extreme accuracy in drawing and tempering), specialization, and economies of large-scale production account for the concentration. Steel shafts are an American development. A substantial reduction of the duty would probably have only a moderate effect on the import-domestic price situation.

#### STEEL FISHING RODS

1. *Description and use*.—Steel fishing rods are made of either light, hollow, steel tubes, or solid steel.

2. *Industrial concentration, 1937*.—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
8.....	8	84	\$1,197,200	55 percent.

3. *Recent tariff history*.—Act of 1913: 30 percent ad valorem. Act of 1922: 45 percent ad valorem. Act of 1930: 55 percent ad valorem. Present duty: 55 percent ad valorem; valued at \$10 or more—30 percent.<sup>16</sup>

4. *Average ad valorem equivalent*.—None.

5. *Domestic production, imports, and exports*.—

Year	Domestic production	Imports	Exports
1935.....	\$946,283	(1)	(1)
1937.....	1,197,200	(1)	\$169,605

<sup>1</sup> Not available, but exports probably exceed imports.

6. *Industrial concentration and tariff policy*.—Specialization, technical skill, and size of market account largely for the concentration. High-grade rods are an American specialty. Imports consist of medium-grade and low-grade rods. A substantial reduction of the duty would probably increase imports gradually, and would lower prices moderately.

<sup>16</sup> Trade agreement with the United Kingdom, effective January 1, 1939.

## SLIDE FASTENERS

1. *Description and use.*—Slide fasteners are the widely known “zippers” used as closures in a great variety of articles.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
51-----	17	190	<sup>1</sup> \$15,000,000	66 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 20 percent. Act of 1922: 40 percent. Act of 1930: 45 percent. Present duty: 66 percent.<sup>17</sup>

4. *Average ad valorem equivalent.*—

5. *Domestic production, imports, and exports.*—

Year	Domestic production <sup>1</sup>	Imports	Exports
1935-----	\$10,000,000	\$400,422	Negligible.
1937-----	15,000,000	869,829	Do.

<sup>1</sup> Estimated.

6. *Industrial concentration and tariff policy.*—Experimental work, patents, and advertising largely account for the present concentration. The imported fasteners are sold at much lower prices than the domestic ones, which are usually of better quality. A substantial reduction of the duty would increase imports moderately and would lower prices of the common types.

## METAL BUTTONS

1. *Description and use.*—Metal buttons consist of embossed buttons and other uniform buttons, trouser buttons, and various other types of metal buttons.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
19-----	19	75	\$2,616,990	44 percent.

3. *Recent tariff history.*—Act of 1913: 15 percent ad valorem. Act of 1922:  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and  $\frac{3}{4}$  cent per line per gross plus 15 percent; if embossed, 45 percent. Act of 1930:  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and  $\frac{3}{4}$  cent per line per gross plus 15 percent; if embossed, 45 percent. Present duty:  $\frac{1}{2}$ ,  $\frac{1}{4}$  cent per line per gross plus 15 percent; if embossed, 45 percent;  $\frac{1}{2}$  cent per line per gross plus 10 percent.<sup>18</sup>

<sup>17</sup> Presidential proclamation, effective July 31, 1936.

<sup>18</sup> Trade Agreement with the United Kingdom, effective Jan. 1, 1939.



4. *Average ad valorem equivalent.*—1934, 44 percent; 1935, 44 percent; 1936, 43 percent; 1937, 44 percent; 1938, 37 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$2,062,344	\$39,964	(1)
1937.....	2,616,990	69,175	(1)

<sup>1</sup> Not separately reported.

6. *Industrial concentration and tariff policy.*—Specialization and size of market account largely for the concentration. Imports consist mostly of embossed buttons. A substantial reduction of the duty would increase imports moderately and would lower prices slightly.

#### VEGETABLE IVORY BUTTONS

1. *Description and use.*—Vegetable ivory buttons are used principally for outerwear, such as overcoats, as well as for men's suits.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
10.....	10	75	\$1,605,022	96 percent.

3. *Recent tariff history.*—Act of 1913: 35 and 45 percent ad valorem. Act of 1922: 1¼ cents per line per gross plus 25 percent ad valorem. Act of 1930: 1¼ cents per line per gross plus 25 percent ad valorem. Present duty: 1¼ cents per line per gross plus 25 percent ad valorem.

4. *Average ad valorem equivalent.*—1934, 87 percent; 1935, 94 percent; 1936, 69 percent; 1937, 96 percent; 1938, 84 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$1,847,569	\$3,542	(1)
1937.....	1,605,022	7,162	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialization, shrinkage of the market (substitution of other types of button, especially those made of plastics) and decrease in number of producers account for the concentration. A substantial reduction of the duty would probably increase imports moderately and would lower prices slightly.

## BONE AND HORN BUTTONS

1. *Description and use.*—Bone and horn buttons consist mostly of bone buttons which are used on cheap garments.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
7.....	7	90	\$715, 896	45 percent.

3. *Recent tariff history.*—Act of 1913: 40 percent ad valorem. Act of 1922: 45 percent ad valorem. Act of 1930: 45 percent ad valorem. Present duty: 45 and 35 percent ad valorem.<sup>19</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$715, 896	<sup>2</sup> \$75, 473	(1)

<sup>1</sup> Not available.

<sup>2</sup> Horn buttons only; imports of bone buttons negligible.

6. *Industrial concentration and tariff policy.*—Specialization and limited market (competition of other types of buttons including plastic buttons) accounts for the concentration. Imports consist mostly of horn buttons. A substantial reduction of the duty would probably increase imports moderately and would lower prices slightly.

## PHONOGRAPH NEEDLES

1. *Description and use.*—Phonograph needles are usually made of metal. A few have permanent points of sapphire, others are made of fiber. Needles are used for all kinds of recording and reproducing machines.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6.....	6	1 90	\$583, 472	69 percent.

<sup>1</sup> Estimated.

<sup>19</sup> Horn buttons reduced to 35 percent in trade agreement with the United Kingdom, effective Jan. 1, 1939.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 45 percent ad valorem. Act of 1930: 8 cents per thousand, plus 45 percent ad valorem. Present duty: 8 cents per thousand, plus 45 percent ad valorem.

4. *Average ad valorem equivalent.*—1934, 100 percent; 1935, 98 percent; 1936, 88 percent; 1937, 69 percent; 1938, 72 percent.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	\$269,364	\$3,288	(1)
1937.....	583,472	9,288	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production and limited market account largely for the concentration. A substantial reduction of the duty would increase imports and would lower prices.

#### PHONOGRAPH RECORD BLANKS (FOR CYLINDERS AND DISKS)

1. *Description and use.*—Phonograph record blanks are for immediate reproduction following recording. They consist principally of the cylinder type used for dictaphones.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free ad valorem rate, or equivalent
6.....	7	190	\$1,267,986	30 percent.

<sup>1</sup> Estimated.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 30 percent ad valorem.

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$1,267,986	(1)	(1)

<sup>1</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production, establishment of brands, and size of market probably account for the concentration. Removal of the duty would have only a moderate effect on the import-domestic price situation which would be confined primarily to the low-priced grade, cheaper products.

## DISK PHONOGRAPH RECORDS (NOT INCLUDING TRANSCRIPTIONS)

1. *Description and use.*—Disk phonograph records are the usual type used for music reproduction.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
3.....	3	100	\$4, 755, 877	30 percent.

3. *Recent tariff history.*—Act of 1913: 25 percent ad valorem. Act of 1922: 30 percent ad valorem. Act of 1930: 30 percent ad valorem. Present duty: 15 percent ad valorem.<sup>20</sup>

4. *Average ad valorem equivalent.*—None.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports <sup>1</sup>	Exports <sup>1</sup>
1935.....	( <sup>2</sup> )	\$74, 683	\$266, 854
1937.....	\$4, 755, 877	79, 341	419, 145

<sup>1</sup> May include electrical transcriptions.

<sup>2</sup> Not available.

6. *Industrial concentration and tariff policy.*—Specialized production and the establishment of brands account for the concentration. Removal of the duty would have only a minor effect on the import-domestic price situation.

## MUSICAL INSTRUMENTS

1. *Description and use.*—Musical instruments include here saxophones, clarinets, cornets, and trumpets, accordions, and drums.

2. *Industrial concentration, 1937.*—

Total number of companies	Total number of plants	Percent of domestic production by 4 largest companies	Domestic production	Tariff status in 1937: Free, ad valorem rate, or equivalent
6 to 12 <sup>1</sup> .....	1 6-12	1 78-90	\$5, 103, 476	30 and 40 percent.

<sup>1</sup> Range cited indicates variation in companies, plants, and concentration for the above products.

3. *Recent tariff history.*—Act of 1913: 35 percent ad valorem. Act of 1922: 40 percent ad valorem. Act of 1930: 40 percent ad valorem. Present duty: 30 and 40 percent ad valorem.<sup>21</sup>

4. *Average ad valorem equivalent.*—None.

<sup>20</sup> United Kingdom trade agreement, effective January 1, 1939.

<sup>21</sup> Saxophones and clarinets, 30 percent, French trade agreement, June 15, 1936.

5. *Domestic production, imports, and exports.*—

Year	Domestic production	Imports	Exports
1935.....	(1)	(1)	(1)
1937.....	\$5, 103, 476	\$2, 229, 420	* \$189, 075

<sup>1</sup> Not available.

\* Saxophones only.

6. *Industrial concentration and tariff policy.*—Full-line production by a few large companies, some specialization, limited market, and establishment of brands account largely for the concentration in the above products. Exports of saxophones and drums exceed imports. With the exception of drums, a substantial reduction of the duty (including the duty on reeds for accordions, which are imported) would probably increase imports moderately and would lower prices appreciably.

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